

# **What I believe to be genuine and authentic**

**the collected publications  
of William Colenso**

Volume 1  
1831–1884

collected by Ian St George



I have been often requested to publish...  
what I believe to be genuine and authentic....

(William Colenso 1881. Historical Incidents and Traditions....  
*Transactions of the New Zealand Institute* 14: 3-33).

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If the more fugitive essays and papers of William Colenso were collected, they would fill volumes.

*Otago Witness* 23 February 1899.

A few pioneers, provoked by a riot of diversity beyond their wildest imaginations, were transformed from collectors into *scientists*. They posed and pondered the most fundamental questions about Nature. Their answers sparked a revolution that changed, profoundly and forever, our perception of the living world and our place within it.

—Sean Carroll. *Remarkable creatures—epic adventures in the search for the origins of species*. Clays, St Ives, 2009.

It has occurred to me—very often—to get my Bot. Papers in "Trans." all bound up in 1 vol. w. Ms. Index

—William Colenso to Coupland Harding 9 June 1891:

The longer I live, the more difficult I find it, to fall in with persons who are able—competent—to draw reasonable, unprejudiced, deductions. Education, alone, won't give it—nor will experience. A man with an untrammeled mind is rare.—Generally all have so much to unlearn first.

William Colenso to Andrew Luff 18 July 1878.

... all the Particulars contain'd in this Book, cannot be found in any one Piece known to me, but lie scatter'd and dispers'd in many, and so this may serve to relieve those fastidious Readers, that are not willing to take the Pains to search them out; and possibly, there may be some whose Ability (whatever their Industry might be) will not serve them to purchase, nor their Opportunity to borrow, those Books, who yet may spare Money enough to buy so inconsiderable a Trifle.

John Ray 1691.

The Wisdom of God manifested in the Works of Creation.  
(quoted by William T Stearn in the “*Apologia pro libro mio*” of his 1966 Botanical Latin).

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## Introduction

*I have been often requested to publish, in a separate form, what I have so amassed and known; but that I have hitherto refused to do so, for I seek neither pelf nor fame (as a book-maker), but merely to relate, in plain words, what I believe to be genuine and authentic, leaving it for those who may come after me to "make the book,"—to fuse together the ores I may have laboriously sought out, and collected, and brought to the surface.*

William Colenso, 1881.<sup>1</sup>

These two volumes contain most of Colenso's published work in English and continue this series of William Colenso's writing. They follow *Colenso's collections*, published by the New Zealand Native Orchid Group in 2008 and containing his letters to Kew and lists of specimens sent, *Give your thoughts life*, containing his letters to editors, and a second edition of *William Colenso: his life and journeys* by AG Bagnall and GC Petersen, both published by the Otago University Press.

Few of Colenso's papers are readily available in printed form and many are hard to access even by internet. Volume 1 begins with his compilation of *The ancient and modern history of Mounts Bay, etc* published by his Cornwall employer John Thomas in 1831. Volume 2 ends with his nostalgic reminiscences of Cornwall, "a Fragment left by the late W. Colenso, F.R.S., F.L.S." published posthumously in 1899. Between them is a large and varied sequence of his published work. I have not tried to group the papers because several roam discursively over several subjects and thus defy tight categorisation.

What seems astounding today is not only the volume of his published work, but also the breadth of his interests and his virtuosity: his attention to detail, the accuracy of his observations and the scholarship demonstrated in his references to the literature. One can only gasp at his sheer mental and physical energy and the range of his expertise. He wrote

"... now without boasting (all such ill becomes me) I may perhaps be permitted to say that there are a few (and only a few) things during a long and active life of which I trust I know a little, viz:—1. *The Polynesian language.* 2. *The Botany of N.Z.* 3. *This subject of the Sabbath.*"<sup>2</sup>

But he wrote on many more subjects than that and could, as he quoted from Wordsworth...

— find  
A tale in every thing,

his work liberally sprinkled with quotations from the classics, from poets (his favorite was James Thomson<sup>3</sup> as he

1 1881 *Historical Incidents and Traditions.... Trans. N.Z.I.14:* 3-33.

2 1878 *Tracts for the times;* No. 1, *On the Sabbath and its due observance—below.*

3 James Thomson 1700–1748 seems rather turgid today, but "his commerce with the more familiar aspects of nature was direct and unimpeded. ... No one... since Milton had given so much attention to the varied aspects of nature, and, consequently, Thomson's description of the stock elements of conventional scenery... was governed by an accuracy of observation and depth of enjoyment ...." (*The Cambridge History of English and*

confessed in his 1886 "Description of some newly-discovered cryptogamic plants"). He "had received a grounding in the 'rudiments' and the classics under the wise tutorship of Mr. Will Purchase at the latter's private school, which fortunately left him with a thirst for further knowledge and a sound basis for self-education".<sup>4</sup> Colenso extended his Latin and Greek studies at Te Waimate when training for ordination.<sup>5</sup> He avoided Latin diagnoses in his descriptions of new plants, and even in his English descriptions got a few of his Latin declensions confused—"cilia, -æ", and "flagella, -æ" (I, f.) for instance, instead of *cilium*, -a and *flagellum*, -a (II, n.), and made a few errors in the gender of his specific names.

If botanical Latin is almost incomprehensible to classical Latin readers,<sup>6</sup> botanical English must be equally so to many English readers: it is an esoteric vernacular developed for a precise objective purpose. Colenso revelled in it. Yet he frequently allowed himself the subjective indulgence of calling a plant (for instance), "striking", "fine", "elegant", "graceful", "a gem!", having "a most beautiful appearance", and "enchanting the eye of the observer with a most beautiful, delicate, and ever green circle."

He was an accomplished writer, varying his style to suit his purpose: his inland journeys are reported in the Empire expansionist "exploration narrative" style, with its set pieces—what Wevers called the "monarch of all I survey scene... the traveller in visual command above a spread-out landscape" (*silent on a peak in Darien!* or "*Pelion on Ossa*" as Colenso was fond of quoting); the "explorer/indigene frame" where unnamed natives serve the explorer's needs; the influence of a wild untamed country, people and elements; the trackless wastes of the interior.<sup>7</sup>

The prose he used in retelling the Maori legends is quite different from that in his journeys and scientific papers: a lyrical mix of the archaic biblical style of the King James version, the heroic style of Pope's translation of Homer (though happily without the iambic pentameters in rhyming couplets) with a touch of Grimm's *Fairy Tales*. Thus he lent the myths an authenticity derived from a familiar, larger-than-life, epic European ambience.<sup>8</sup> They read like Icelandic sagas.

On the other hand, in his account of the Treaty negotiations his prose betrayed his paternalism. Head wrote, "... William Colenso... gives the translations of the chiefs' speeches a quaint and even childish air that undermines their status; effort is required to read them as political commentary."<sup>9</sup> Parkinson, however, notes that "It was all political theatre,

*American Literature in 18 Volumes* (1907–21). Volume X. The Age of Johnson. Elsewhere Colenso wrote that Ossian or Longfellow or Cowper were his favorite poet.

4 Bagnall AG, Petersen GC 1948: *William Colenso, his life and journeys*. Wellington, Reed. p17.

5 "I am now occupied—entirely so—with Greek and Latin, &c., which I shall not regret to lay aside." Colenso to JD Hooker 12 April 1844 from St. John's College, Waimate.

6 Stearn WT 1966. *Botanical Latin*. Nelson, London.

7 Wevers L 2002. *Country of writing*, AUP, Auckland; Ch.3: Adventures of the printer.

8 Despite his "To understand (the myths) they should be read ... not in either the meagre, or the polished semi-classical, dress, which some of them have been made to assume in translations."

9 Head L 2006. *Land, authority and the forgetting of being in early colonial Maori history*. PhD thesis, University of Canterbury.

and everybody including Hobson recognised that”  
(Parkinson P, *pers. comm.*)

Books were something of an obsession. He quoted Chaucer on the title page of his *In memoriam* (1884),

For out of the old feldis, as men saith,  
Comith all this newe corne from yere to yere;  
And out of oldē bokis, in good faieth,  
Cometh all this newe science that men lere.”

He listed the few botanical books he possessed (most were probably gifts from Alan Cunningham) in his letter to WJ Hooker in 1842, but his later letters acknowledge Hooker’s sending several more. A hundred volumes were destroyed in his 1852 house fire, and he had to sell many of the rest after being dismissed from the church; but by 1863 he would boast “the best Botanical library in the country”,<sup>10</sup> and in 1865 would send his most prized books for display at the New Zealand Exhibition in Dunedin. Bagnall and Petersen mention his intention to leave his books to Penzance, but there is no such entry in his will. There is no sign of his books in Penzance public collections either—though the *Cornish Evening Tidings*, 13 February 1899 announced Colenso’s death and mentioned that he had “donated a number of volumes to the Penzance Library.” Unfortunately it didn’t say what they were, nor whether they were volumes written by Colenso himself.<sup>11</sup> Coupland Harding wrote that his theological books were to go to the local diocesan library, and “the bulk of his library including rare New Zealand books, to the Wellington Museum”.<sup>12</sup> Again there is no such clause in his will. The *Hawke’s Bay Herald* reported that they were sold by his elder son Latimer to a representative of Angus and Robertson of Melbourne.<sup>13</sup>

Certainly he had at his disposal the authoritative literature of his time; he used it freely in defence of his arguments, and was disdainful of writers (Taylor, Stack, Thomson, Dr Thompson, Phillips, Travers, White) who ignored evidence at their peril: his demolition of Stack’s paper on the colour sense of the Maori was little short of annihilation:

10 Colenso to JD Hooker 26 October 1863.

11 The *Hawke’s Bay Herald* of 16 February 1887 reported that Colenso would leave all his money and books to Penzance, but Colenso corrected that in a letter published on 1 March, ‘I did not say—‘His books and money’ (meaning, the whole) ‘would now go to his native town of Penzance in Cornwall’:—but, part only.’ The Morrab (Penzance) Library catalogue includes three volumes by Colenso, probably donated by John Ralfs: (574.9931)—Articles on Botany & Zoology of New Zealand from *Trans. N.Z.I.* Vol.19, 1886—inscribed by John Ralfs; (c082)—A Classification and Description of Some Newly Discovered Ferns Collected in the Northern Island of New Zealand in the summer of 1841-2; (499.4) A Maori-English Lexicon.

12 Harding to G. Robertson 1 March 1899, ATL MS-Papers-0792.

13 *Hawke’s Bay Herald* 9 September 1899. One book from Colenso’s library was recently acquired in Melbourne; it is Wake W. (Ed.), 1693. *The genuine epistles of the Apostolic Fathers. S. Barnabas, S. Ignatius, S. Clement, S. Polycarp. The Shepherd of Hermas, and the Martyrdoms of St. Ignatius and St. Polycarp....,* inscribed “W. Colenso, St. John’s, Waimate, 1843”, and bears notes in his hand. He quoted verbatim from this in papers published in 1878, 1893 and 1898, so it seems likely he kept it, and it was among those purchased by Angus & Robertson on his death. He told RC Harding in a letter dated 20 January 1898 that he had sold his Breeches Bible in Wellington: “I sent it thither w. sevl. other books & articles for auction in 1853 when I was very hard up—not a 1/- to call my own!”

unambiguous in its scholarly argument and devastating in its directness.<sup>14</sup>

Only one of his botanical papers is accompanied by a botanical drawing. Colenso was an awkward artist; he sketched moa bones for his Tasmanian paper, views of Paihia later published in his “Fifty years ago in New Zealand”, ferns for his first paper in the *Tasmanian Journal* (though they were not published) and a tree fern for his 1886 paper.<sup>15</sup> He made a few woodcuts of zoological specimens to accompany other papers.

It seems he did draw other plants, though only one such drawing has survived: of *Pterostylis* he wrote to David Balfour, “I have been making another coloured drawing of another spn (there are several, both in N.Z & Australia), and they have all, in the flower, a great family likeness; but *Pt. emarginata* & *Pt. Banksii*, are very much larger than this drawing, & with longer & finer red tails.”<sup>16</sup> The watercolour of *Pterostylis trullifolia* is with his letters to Balfour in the Hawke’s Bay Museum Trust collections. He later wrote that he had had to give up drawing after his thumb injury.

Allan Cunningham gave him his own botanical glass in 1839, and Lady Jane Franklin gave him his first small vertical microscope in 1841. In 1864 he wrote to Hooker asking him to send a Coddington lens. Later for a time he used the skills and the powerful microscope of his medical friend William Spencer of Napier .

*“Not being satisfied with the comparatively low power of my own microscope, I applied to Dr. Spencer, who has an excellent and powerful compound one, (which he has also used so very effectually in describing the fresh-water Algae of New Zealand in his papers in past volumes of ‘Trans. N.Z. Inst.,’) and Dr. Spencer has very kindly examined the fruit, etc., of this little plant....”*

He named *Plagiochila spenceriana* and *Peziza spencerii* for him. Then in December 1884, at age 73, he wrote to Hooker asking for advice about a new microscope for himself so that he could see the teeth of mosses and the finer structures of *Hepaticae* better. It arrived the following year but to his frustration the Napier customs officers lost a vital part in unpacking it for inspection.

That beautiful brass instrument was added to the National Museum Te Papa Tongarewa collections at auction in 2012.

He was dogmatic in his spiritual beliefs, but was a liberal theologian in the sense of rejecting the prevailing fundamentalism of his time, his ideas matching those of his famous cousin, John William Colenso, Bishop of Natal.<sup>17</sup>

14 The *Trans.* report of the meeting at which Colenso presented this paper concludes, “A long and animated discussion followed the reading of this paper, in which the President, Mr. Colenso, Mr. Locke, and others, took part, and Mr. Stack’s views were generally opposed and condemned.”

15 Drawn from a photograph, apparently—see Colenso to Balfour 27 September 1887.

16 Colenso to Balfour 12 March 1884.

17 There is little remaining evidence of contact between the two, though William Colenso’s letter to the editor of the *Daily Telegraph* of 20 December 1884 states, “I, on my part, feel the more inclined to write on this error of yours, from the fact of my being a firm believer in the arithmetic and teachings of Bishop Colenso respecting all those legends and tales of the ancient Jews, (which, I may further say, I have also proved to be correct,

His last paper, “On a radiant phenomenon” even questioned the divine origin of the sign seen by the Emperor Constantine in the sky: “the question arose in my mind whether that appearance in the sky was not caused in a similar kind of natural manner”.

He, a former Church of England cleric, responsible to the high church Bishop George Augustus Selwyn, used the term “natural selection” in a monograph published as early as six years after Darwin’s *Origin of species*. He was an uncertain Darwinist, however, despite corresponding with Hooker and reading Huxley: euphoric in the bush, he wrote

“... it is all one to me, at such times, whether those many and varied, yet regular and symmetrical, forms were produced by creation or by evolution. Rather, however, would I set the consideration of that deep and difficult question aside that I might the more fully drink in and enjoy the exquisite living scene before me.”<sup>18</sup>

A correspondent to the *Bush Advocate* wrote (29 May 1888), “Many of your readers will regret to hear that our worthy scientist, the Rev. William Colenso, is about leaving our district for the winter, he having pressing duties to attend to in Napier. He has been residing at Mr Baddeley's Railway Hotel for some time past, not only as a matter of choice for the unsurpassing salubrity of the locality and its bracing climate, but for its proximity to a splendid fern bush, and other notable novelties in the wild shrubbery line, amongst which in good weather he invariably took his eager walks in the interest of science. At the same time, though thus actively engaged, he did not at all forget local interests, but has taken a special delight in bestowing most liberally and unostentatiously the means at his disposal towards the advancement of the district to a higher and nobler platform. On last Sunday evening, owing to the Revs. Robertshaw and Stewart being both away at Woodville, there would have been no service in Danevirke had it not been for Mr Colenso, who willingly filled the gap when spoken to on the matter, and preached a very eloquent and edifying sermon on the prodigal son, which was of the most evangelical type, to a very crowded and attentive audience in the new Presbyterian Church. To me, and to many of his auditors, if not to all, it was really refreshing to note the fervid and fluent utterance of an elderly gentleman verging on being an octogenarian, one who had spent many of his late years most successfully in the laudable pursuit of science, which with some scientists, when not directed with the good spirit that rules the universe, tends to lead to scepticism of gospel truths, but not so with him. Like Sir Isaac Newton, he only sees better the puny littleness of the best efforts of men, and that enabled him to raise his voice on the occasion with much power and pathos, humbly reechoing the Great Master's utterance as recorded in St Luke's Gospel.”

He argued compassionately for peace by just negotiation during the Hauhau uprising, and again (but ineffectively) against the trial for murder of the Hauhau prisoner in Napier jail, Kereopa, on the basis that Kereopa’s killing at Opotiki of the missionary Volkner was in fact not murder, but part

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and which have not and cannot be logically refuted,) as well as from my being his nearest relative living, and therefore doubly ready to take up any charge of that nature against his teaching,—or, rather, the only reasonable deductions from those given premises.”

18 Plain and practical thoughts on New Zealand botany. *Trans. N.Z.I.* 1891; 24: 400-409.

of an act of war, and should therefore be immune to criminal prosecution.<sup>19</sup> His fellow colonists were unmoved by such sophisticated arguments and Kereopa was hanged. He wrote with disdain about restrictions on Sunday trading.

### Where did he publish?

Bagnall & Petersen wrote (p.21) that in his youth in Cornwall, William Colenso “was an active and keen member of the Penzance Natural History and Antiquarian Society, his particular interest being in the characteristic botany of Cornwall. At the age of eighteen he read his first paper to the Society, dealing with the trade of the Phoenicians with West Cornwall (Colenso to Coupland Harding, 26th November, 1896).”

That is impossible as Colenso was 18 in 1829 and the Society was founded in 1839. In fact what he wrote to Harding was “... my first paper, written for Mechanics Institute in Penz., when I was 18–19—on St. Michaels Mount, &c., &c.—and the trade of the ancient Phoenicians to West Cornwall....”<sup>20</sup>

Bagnall & Petersen wrote of his apprenticeship with John Thomas (p.18): “As well as carrying out the printing orders of his regular customers, Mr. Thomas published pamphlets and books dealing with politics and other matters of interest, and even wrote or compiled such works himself. In this he no doubt found an enthusiastic collaborator in young Colenso, who is said himself to have compiled a work on the history of his native town.”

The third edition (1831) of *Ancient and Modern History of Mount's Bay. With every civil and military transaction in St. Michael's Mount, Marazion, Penzance, Paul, Buryan, Saint Levan, Sennen, St. Just, &c.* (Penzance: John Thomas) is anonymous, but in 1878 was attributed to Colenso<sup>21</sup> and is catalogued by the British Library as “Compiled by William Colenso.” This 108-page booklet was enlarged from an 82-page 1820 edition and published when Colenso was 19 or 20, and nearing the end of his apprenticeship with John Thomas. A good deal of the 1820 edition remains, but the new parts of this booklet are probably his first published writing, and indeed part of it may have been what he read to the Penzance Mechanics Institute—though it does not mention Phoenicians. It must be the work referred to in the last paragraph of his posthumously-published 1899 “Memorabilia, Ancient and Modern; being Remarks and Information respecting some of the Tin-mines in Cornwall, England”.<sup>22</sup>

In 1851 he did send a collection of New Zealand plants to the Penzance Natural History and Antiquarian Society,<sup>23</sup>

19 The concept of protection of prisoners in the “law of war” goes back to Deuteronomy.

20 Mechanics Institutes were set up for the education of working men, and usually had libraries.

21 Boase GC, Courtney WP 1878. *Bibliotheca Cornubiensis vol II, P-Z*, London, Green, Reader & Dyer, p713.

22 Which does mention Phoenicians—see below.

23 The 1864 issue mentions (p.12) “Collections of Phænogamous plants from New Zealand” (listed as a “Donation to the Society 1851”): “Your council have to acknowledge the receipt of a small, but interesting, collection of flowering plants from New Zealand, from the Rev. Mr. Colenso, a native of this town; these, the council would advise, should at once be preserved, by being placed in a book similar to the one used for the *Algæ*.” (p12).

and one paper, published in its *Journal* in 1884 on an edible fungus, that paper largely reprinted with additional information in GM Thomson's ill-fated *New Zealand Journal of Science*. He is listed as a member of the Society from 1883–1891<sup>24</sup>). Its library holds the following by Colenso: (574.9931) Articles on Botany & Zoology of New Zealand from *Transactions of the New Zealand Institute* Vol.19, 1886—inscribed by John Ralfs; (c082) A Classification and Description of Some Newly Discovered Ferns Collected in the Northern Island of New Zealand in the summer of 1841–2; (499.4) A Maori-English Lexicon.

In addition the Morrab Library in Penzance holds a sentimental essay on reminiscences about Cornish botany, sent for publication in 1885 and read before the Society, but never published; it is published here.

He had religious writing published anonymously in “Pilot” (a church magazine for seafarers) during his time in London in 1833.

Colenso came to New Zealand in 1834 as a printer, mostly producing tracts until the publication of the first complete New Testament in Māori (issued from 1838), and later the first complete Book of Common Prayer at the end of 1841. He also produced some secular works for the Hobson Government and sectarian tracts on his own account. When the New Zealand Auxiliary of the Religious Tract Society was established in 1839, he wrote and printed *He pukapuka Aroha no te Aroha Pono*,<sup>25</sup> on the blessings of religion. His own tracts against Roman Catholicism appeared in 1840: *He pukapuka waki* and *Ko te tuarua o te pukapuka waki*<sup>26</sup> were both printed in Sydney because the CMS would not allow its press to be so used. His fourth anti-Catholic tract was *He Kupu wakatupato nei e Aroha Pono*,<sup>27</sup> which Colenso printed at his own expense. A fifth tract, *He Manuwiri hou, ko te Wakakite*,<sup>28</sup> appeared in 1849,<sup>29</sup> and even in 1852 Colenso was working on an unpublished collection.<sup>30</sup> These, his Māori lexicon and his *Ko te A-nui a Wi, hei ako maana ki te reo Ingirihi*. (*Willie's first English book*, 1872) and other pamphlets in Māori are not included here.<sup>31</sup>

Before the advent of the *Transactions of the New Zealand Institute* in 1868 Colenso sent his scientific papers for publication to Tasmanian and British periodicals, and in a number of instances had booklets printed with similar content.

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Colenso mentions plants sent to J.Ralphs and W.Curnow of Penzance in his letters to Hooker—see *Colenso's collections*.

24 <http://west-penwith.org.uk/pnhas.htm> gives the membership list. Other societies predated the Natural History Society, and (for example) John William Colenso read a paper to the Royal Geographical Society of Cornwall in 1829.

25 # 76 in Parkinson P, Griffiths P 2004. *Books in Māori 1815–1900* (BiM). Raupo Publishing (NZ) Ltd. Colenso adopted the nom de plume Aroha Pono (True Love).

26 *Books in Māori* #76 & #77.

27 *Books in Māori* #110.

28 *Books in Māori* #374. Colenso now calls himself the Watchman.

29 Printed on his private press at Waitangi (*Books in Māori* #374).

30 *He Matenga totika*: “Happy Deaths”, not specifically anti-Catholic.

31 He wrote to TM Hocken (16 March 1895) giving a list of accounts of the Maori translations of the Scriptures.

### The Tasmanian connection

Colenso wrote to Ronald Campbell Gunn in Tasmania (at the suggestion of Lady Jane Franklin, who met Colenso when she visited Paihia 1–14 May 1841). Gunn published four Colenso papers in the *Tasmanian Journal of Natural Science* between 1842 and 1846. Two were also published as monographs by the *Launceston Examiner*.

There is no obvious direct link between the *Launceston Examiner* and the *Tasmanian Journal*, and although an examination of the type and layout shows the republished fern paper was printed at the *Examiner* from the same blocks as the original, the *Examiner* “Excursion” paper preceded its appearance in the *Journal*, and the type is different.

Hobart and Launceston were major centres in the 1840s. Hobart bookseller-publishers, notably Samuel Tegg,<sup>32</sup> were involved in producing several early New Zealand prints, e.g. Joseph Merretts’s “The New Zealand Festival 1845”, and at least two Māori language pamphlets were printed in Hobart in 1841<sup>33</sup> (several had also been printed in Sydney before Colenso’s arrival in New Zealand in 1834).

In 1839 Gunn was private secretary to Sir John Franklin in Hobart, but in 1841 he resigned to become managing agent of the estates of William Lawrence of Launceston. While in Hobart he helped found the *Tasmanian Journal of Natural Science* and remained its editor 1842–1849. Volume 1 (1842) was printed by J. Barnard, Govt Printer, Hobart, but Volumes 2–3 (1846) were printed by Henry Dowling Jun., Stationer, Brisbane Street, Launceston.

The *Launceston Examiner* was co-founded 1842 by Rev. John West and by 1845 was owned by J.S. Waddell and James Aikenhead.

Gunn would have known the Launceston printers, and he is the link between Hobart and Launceston.

### London Journals

Colenso sent his famous Mungo Park-like account of his journey into the interior in 1841–1842 to his mentor WJ Hooker, and Hooker published it, with complimentary accompanying notes, in the *London Journal of Botany* (republished in *Colenso's collections*). Colenso revised the text slightly, and sent the new version to Gunn for the *Tasmanian Journal*.

Hooker published excerpts from other Colenso letters in the *London Journal of Botany* and in his *Journal of Botany and Kew Garden Miscellany*.<sup>34</sup>

### Annals and Magazine of Natural History

Colenso’s “account of some enormous fossil bones”, first published by the *Tasmanian Journal* in 1843, was reprinted (according to Colenso, it was “republished... by Professor Owen”) in the *Annals* the following year.

Owen had written his famous paper identifying moa bones as those of a giant bird in *Annals* volume V, No. 30 p.166.

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32 Interestingly, T. Tegg, Cheapside, was the London distributor of the Mount's Bay booklet.

33 Hobson had arrived in 1840 and Colenso’s press was swamped with Governmental work on top of the already onerous missionary printing; the “outsourcing” to William Wade in Hobart resulted, however, from the CMS’s disapproval of the content of Colenso’s tracts (Parkinson P, pers. comm.).

34 vol 3, p.220, on a “second species of New Zealand flax.”

In his 1891 “Status quo” (below) Colenso wrote that he had not seen Owen’s paper before writing his own.<sup>35</sup>

Most of Allan Cunningham’s seminal papers on New Zealand botany<sup>36</sup> had been published serially in the *Annals*, and Colenso wrote to WJ Hooker on 20 July 1841,

*“I hope to study A.C.’s able “Precursor”, ere I write you again, which I hope to do also at no very distant period.... I also want Nos. 1, 2, and 4, to complete the “Annals of Nat. Histy.”—the last No. of which is 25—I should wish to have the remaining Nos. of that vol. (IV) so as to complete it.”*

He thus wanted the *Annals* only for Cunningham’s papers, and there would be a record in his letters to the Hookers had he ever ordered volume V (with Owen’s paper). There is not.

#### Napier printers

The *Hawkes Bay Times* was first published by the Yates brothers in 1861. In 1864 Thomas Bennick Harding bought the business and in 1873 his son Robert Coupland Harding purchased it. A year later the *Times* was discontinued, but Coupland Harding continued publishing, eleven issues of *Harding’s Almanac*, and his famous *Typo*. His close and longstanding friendship with Colenso began at a book auction. Harding published Colenso’s *Fifty years ago in New Zealand*, his *Presidential address* in 1888 and his *Ancient tide-lore* in 1889.

The *Napier Daily Telegraph* was established in 1870 “for the purpose of providing an independent newspaper, untrammelled by party or sect.... The ‘Telegraph’ is a well-written and outspoken paper, of democratic principles.”<sup>37</sup> The *Telegraph* printed Colenso’s three literary papers (1883), *In memoriam* (1884) and his essay on the early Christian Church at Ahuriri (1889).

James Wood began the *Hawke’s Bay Herald and Ahuriri Advocate* in 1857. In 1871 WW Carlile, P Dinwiddie, T Morrison, and E Grigg bought the paper. Colenso had been a frequent correspondent from the start, wrote a paper on Captain Cook for the centennial of his visit to Hawke’s Bay, and had booklets printed by the *Hawke’s Bay Herald* on the condemned prisoner Kereopa (1871), collections of his public letters on the sabbath (1878) and on *Certain errors of the Church of Rome* in 1898.

#### Transactions of the New Zealand Institute

At the annual meeting of the Wellington Philosophical Society on 14 March 1899 the Chairman “drew attention to the loss the Society had sustained by the death of the late Rev. W. Colenso, and Sir James Hector moved that a record be made in the minutes of the great services rendered by the deceased gentleman. In speaking to that motion, Hector stated that Colenso ‘was the founder, with the late Sir George Grey, of the New Zealand Society, upon which the Wellington Philosophical Society was engrafted.’”<sup>38</sup> The Society appeared to have been inspired by the successful Tasmanian Society, and met first in 1851. Bagnall and

35 Bagnall & Petersen (Appendix D, p464) discuss the accusation of plagiarism against Colenso at some length.

36 *Florae Insularum Novae Zelandiae Precursor; or a Specimen of the Botany of the Islands of New Zealand*.

37 *Cyclopaedia of NZ* 1908.

38 *Transactions* 31: 723.

Petersen (p.415) rather doubted Hector’s account of Colenso’s involvement. Indeed, Colenso made no mention of it in his letters to the Hookers at the time.

The New Zealand Institute was established by an Act of Parliament in 1867. Hector was appointed its Manager and Editor of its *Transactions and Proceedings*.<sup>39</sup> From the first issue in 1868 Colenso submitted most of his papers to the *Transactions*, resorting to local printers when his subject was not scientific, and when he ran into difficulty with Hector.

He was not the most published contributor to the *Transactions*—Hutton had 149 papers, Kirk 120, Cheeseman 81, Buller 85 and Colenso 76 (Hector 51, Thomson 30, Buchanan 29). Few were trained for the tasks they assumed: Hector was a medical doctor, self taught in geology, Kirk a nurseryman, Cheeseman self taught in botany, Buchanan a pattern-maker and surveyor, Hutton a Captain in the army; Haast was not trained as a geologist. Colenso was trained as a printer but became a missionary.

Colenso’s first two papers for the *Transactions* were the essays written for the Commissioners of the New Zealand Exhibition held in Dunedin in 1865. Five of the essays, including Colenso’s on botany, were published as monographs, but Colenso’s essay on Māori was not. The Commissioners, and Dr Alfred Eccles<sup>40</sup> in particular, had considered some of Colenso’s notes “objectionable”,<sup>41</sup> so the essay was published in the *Transactions* without his extensive notes. Colenso referred to the whole saga in his 29 November 1867 letter to JD Hooker.<sup>42</sup>

It is worth publishing in full Colenso’s very reasonable response (to Hector) to the news that his work was to be subjected to what must be the earliest, and perhaps the most shocking case of moral censorship in the history of New Zealand science.

*Wellington, Septr. 29<sup>th</sup>, 1865.*

*Jas. Hector, Esq., M.D.  
&c &c &c  
Wellington.*

*Dear Sir*

*I have just received your note of this morning,  
covering an official note (no. 3024,) from the Hon'y.  
Secretary to the Dunedin Exhibition to you of the  
25<sup>th</sup> inst., and also Ms. notes, 21, 22, & 29, to my  
Essay on “the Maori Races of N.Z.”—which notes  
are considered by the Commissioners to be  
“objectionable,” and such as “ought not to be  
printed.”*

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39 Fleming C 1987. *Science, settlers and scholars : the centennial history of the Royal Society of New Zealand*. RSNZ, Wellington.

40 Dr Eccles 1821–1904 qualified as a surgeon in London, emigrated to Otago in 1861, becoming the first Fellow of the Royal College of Surgeons to practise in the province. He was involved in the origins of the Otago Medical School. He returned to live in his home county of Devon in 1871.

41 Eccles scrawled “Beastly” in the margins, and Hector noted, “Colenso’s is not well written but it is valuable if correct.”

42 see *Colenso’s collections* p326. On 3 March 1866 he had written, “I believe the good Scotch commee. have latterly found fault with some of my “notes” (from old visitors) and remarks as being too free.”

*I have again closely perused them, and, failing to discover any thing objectionable in them, I confess I scarcely know how to reply.*

*It must be clear, that in my writing on the New Zealanders, (who have been, and are, so heavily charged with immodesty,) I wished to shew what they were—what the first navigators & visitors found them to be: of course, if those notes (collected from rare and authentic works,) are to be struck out, my own opinion & early knowledge of them (being contrary to the general modern estimation,) will appear still more peculiar; while by such suppression of the truth not only myself but also the N.Zelanders will not have justice done us.*

*—Pardon me, if I say, I had thought the day of ultra-fastidiousness in scientific enquiry had well-nigh passed away.—*

*In order, however, if possible to please all parties, I have no objection to the striking-out of the middle part of note 21,—(beginning “the writer recollects,” and ending at “comforted.”)—also, the first part (or the whole) of note 22 (at the same time I feel such would be a suppression of the truth)—and, the term “making water,” in note 29, could perhaps be modified by some more delicate word, or euphemism,—or given in Latin!—or, if still objected to, let this note (29) be struck out altogether.*

*Once more, and in conclusion, may I be permitted to observe—I. That, viewing the Ms. Essay and Notes as being the property of the Commissioners, they should deal with them as they please: but, if they should choose to print them with much alteration or suppression of parts, or of (necessary) notes, that I should be allowed to reprint them in full (say, at least 2 (two) years hence,) if by me desired.—2. That, if the Commissioners should on the whole prefer to decline the printing of them, I am quite willing to receive them back, leaving it entirely to them to make any allowance to me for trouble expense and loss.—*

*Should I live to complete my large projected work on N.Z.,<sup>43</sup>—statements and notes of a much more “objectionable” character than any to be found in the present Essay & Notes, will, of necessity, be found in it.—*

*Believe me*

*Dear Sir*

*Yours truly*

*Wm. Colenso.*

On 23 November 1869 Colenso wrote to JD Hooker, saying,

*“With this I send you a packet (registered) being my only single copy of the Essay on the Natives, with all the notes, & wanting appendix, in Ms.—I send you my copy, in order that you may have the proper places of the notes indicated, together with a few typos! corrections marked,—and that you may keep in your Libr. your own presentation copy.”*

The manuscript has not survived in the Kew library, but the three contentious notes are bound with the final handwritten copy of the manuscript in the Alexander Turnbull Library,<sup>44</sup>

43 By this he meant his Lexicon.

44 ATL ref: QMS0494.

and part of an early handwritten copy containing drafts of all of the notes is in the Mitchell Library, Sydney,<sup>45</sup> (among Coupland Harding's papers). From that almost illegible scrawl we have copied the notes for publication here.

The Hawke's Bay Philosophical Society was founded in 1874. In 1877 Colenso retired from paid employment at age 66, and as its secretary began to produce an eclectic mix of papers, read to the Society, and submitted for publication in the *Transactions*. His first botanical paper, on two new tree ferns, “... began that long series of descriptions of specimens which he alone considered to have specific validity” (Bagnall & Petersen p.425). Others sank many of his new species, but Colenso's view has now, in many cases, been vindicated, and a good number of his rejected specific names have therefore been reinstated.

Hector rejected some of his papers—notably *In memoriam* (1884), Colenso's account of his Ruahine crossings—apparently because there was too much personal reminiscence and too many literary quotations for a scientific journal. Indeed, *In memoriam* is full of them, though as Colenso wrote in its preface, he added many of the literary quotations later, after it was rejected. (Most of his narrowly scientific papers of botanical description avoid such embellishment).

Three other papers had been rejected, and Colenso published them as “Three literary papers”—two on nomenclature, and a learned piece on “Macaulay's New Zealander” (1883). Even as late as 1896 he would write to Hooker, “I cannot any longer continue to write Papers to have them rejected by the quasi Board of Governors—all, more or less, unfriendly to me; who, also, admit much of rubbish, written by friends, that have often been complained of.”<sup>46</sup>

Colenso did not submit all his papers for publication. As Secretary he read one or two papers at most of the Hawke's Bay Philosophical Institute's meetings, but not all were worked up to publication standard.

#### *Proceedings of the Linnæan Society, etc*

Bagnall and Petersen included in their bibliography, “1886 Flowering plants from New Zealand. *Proceedings of the Linnean Society* (of London), 1883–6, p. 74”. Colenso had been elected FLS in 1865, and had sent specimens and copies of his published monographs to the Society. On 30 June 1883 he wrote to JD Hooker,

*“And this reminds me to ask you (if correct to do so)—to get the Secy. Linn. Socy. to tell me how to act, in the way of my writing any paper for the L.S. Are such sent to the Secy.? Does he arrange for the reading, &c? And, are any received there for “Journal”, &c., that have been already published out here—say, in “Trans. N.Z. Inst.”? &c.*

... and on 31 December 1884,

*“...I have only just finished: a Paper for Linnæan Society, (don't start!) containing descriptions of a few new plants....”*

His paper was read at the 5 March 1885 meeting, and a note to that effect appeared in the *Proc. Linn. Soc. Lond.* Session 1883–1884, p74: “On recently discovered Flowering Plants

45 Mitchell ref: A237; essay pp. 103-265, notes pp. 266-278.

46 Colenso to JD Hooker 23 September 1896.

from the Interior of New Zealand (North Island), 1883-84.' By the Rev. W. Colenso, F.L.S."

To Colenso's disappointment the paper was not published, and he wrote bitterly to Daydon-Jackson, Secretary of the Society, "apologizing, and deeply regretting the trouble I have unwittingly caused you,—which, however, is never likely to occur again." They thought, wrongly, the plants were the same as those Colenso had already sent to Kew.

Bagnall and Petersen also included in their bibliography, "1893 Smelling sense and taste of the ancient Maoris. *Living Age*, Feb. 11, Boston; 196: 448." Colenso sent reprints of his 1891 papers to WT Thiselton Dyer at Kew, asking him to forward copies to the editor of *Nature*.<sup>47</sup> An article appeared in *Nature*<sup>48</sup> entitled "Some reminiscences of the Maoris", reporting at length the content of his 1891 "Vestiges". An extract of this was in turn published in Little's *Living Age*, Boston, in 1893—the editor acknowledged *Nature*, but not the *Transactions*. Although there is no record that Colenso ever sent work for direct publication in *Nature*, it did carry many reports of his work published elsewhere (as did the *Gardeners' Chronicle*).<sup>49</sup>

AA Sherrin included in *Brett's Historical Series: Early New Zealand* (1890) a chapter by Colenso entitled "The first European fighting in Taranaki". It seems to be the only contribution Colenso made to any book, and is taken from earlier articles published in the Waipawa Mail in 1881.

### Why didn't I learn about Colenso at school?

After all, I learned about Hobson, Grey, Pompallier, Selwyn—oh, and Burke and Wills, and Mungo Park, Livingstone and Stanley....

He must have been a commanding personality: Andreas Olsen's grandson wrote that his forebear was one of "an enthusiastic band of amateurs, led by Henry Hill, who collected botanical specimens for Colenso in 1880–1890". Colenso's friends named their children after him (William Colenso Harding, Walter Colenso Winkelmann, William Colenso Drummond, Walter Colenso Johansen, Bernard Colenso Blacklock, William Colenso Reader, John Colenso

47 Colenso to Thiselton Dyer 6 July 1892, "I have recently received my little lot of 'Author's Copies' of my Papers in 'Trans. N.Z. Instit.' for 1891, and in distributing them I send you one of each pamphlet. And as I wish, also, to send copies to the Editor of 'Nature', and don't recollect his address, I venture to enclose his parcel & little note to your care." He sent prints of several papers and booklets to *Nature* and though he never wrote directly for that prestigious journal, was often quoted in its pages.

48 "Some reminiscences of the Maoris. Mr. W. Colenso, F.R.S., has often been asked to record some of his reminiscences of the Maoris, whom he has for very many years had opportunity of studying. This he has now done in a paper printed in the *Trans. N.Z.I.*(vol. xxiv), some extracts from which may be of interest for various classes of readers. He says...." *Nature* Vol 47 10 November 1892: 41–45.

49 "The close of so interesting a life, which for more than half a century has been intimately associated with the progress of science and education in the antipodes, is one that demands more than a passing reference in the columns of NATURE." (Obituary. *Nature* 2 March 1899; 59: 420).

Heath Simcox)<sup>50</sup>; Bagnall and Petersen rather dismissed the significance of such a profound expression of admiration.

He did achieve international recognition: Hooker was effusive in his praises in the *Flora* and the *Handbook*. The prestigious journal *Nature* often reported his work. He was elected FLS and FRS.

Was Colenso ("printer, missionary, botanist, explorer, politician")<sup>51</sup> seen here as too broad, too much of a generalist to be really good at anything? Probably not, for in Victorian times "the man of letters was a generalist. He could not afford to be, nor did he want to be, a specialist. Like the journals in which they published, writers covered politics, theology, philosophy, literature, history and popular science".<sup>52</sup> Colenso was a true Victorian polymath, and was admired for it.

It cannot be that he wasn't important enough. Is it because he was not respectable enough? Indeed, that is the issue.

He was emotionally alone and it was close to his 40<sup>th</sup> birthday when he began a relationship with Ripeka Meretene, his parishioner, his servant, and his adopted daughter.<sup>53</sup> Was his church colleagues' disapproval of that relationship (exacerbated by his refusal to acknowledge the enormity of his error and thus his indignation at the treatment he received) responsible for their belittling his achievements? responsible for what appears to have been an almost deliberate minimising of his place in our history?

His relationships with the important men of the Church of England in New Zealand have been canvassed to an extent by Bagnall and Petersen—his strongly Protestant evangelical background clashed with Selwyn's high church views; his strongly worded pamphlets—using the nom-de-plume *Aroha pono*—pointing out the "errors" of the Roman Catholic Church seemed bigoted even in the early missionary years, and doubly so later.<sup>54</sup>

He famously offended the Scots, who had used their networks to have Donald McLean elected. The *Hawke's Bay Herald* reported Colenso's words on 10 January 1863,

50 Colenso boasted (letter to his nephew 26 February 1895) that seven boys had been christened "William Colenso".

51 Subtitle to Bagnall & Petersen.

52 Heyck TW 1982. *The transformation of intellectual life in Victorian England. The world of the man of letters*. London, Croom Helm, p.42.

53 See Colenso's *Autobiography*. Although members of the Neho whanau based in Northland claim Colenso as a forebear, there is no evidence that he was. "It was the practice of the early missionaries to name newly baptised converts after their baptismal sponsors or godfathers.... These surnames persisted in later generations. One (Neho forebear) took the baptismal name William Colenso = Wiremu Koreneho in the same manner. After a disgrace such names were sometimes dropped ... (and that) is likely to have occurred with the dropping of Koreneho among Ngati Kahungunu converts after 1852. That would explain why Neho persisted in Northland only." (pers. comm. Parkinson P, July 2009).

54 Colenso's 1842 *He Kupu Wakatupato*, Na te Aroha Pono. "A ki atu ana a ihu, ka mea atu ki a ratou, kia tupato ra kei wakahekia koutou e te tangata" related the service used by the Bishop of London for the reception of three priests from the church of Rome. His Ko te Tuarua o nga Pukapuka Waki; Hei wakarite atu i nga Henga a te Hahi o Roma continued his comments on the church of Rome, being 3 dialogues dealing with six further errors.

after he was elected the 5<sup>th</sup> member for the town of Napier by a casting vote. "...He was low on the poll, but the fact was, he was neither an Oddfellow nor a Freemason, and, above all, he did not belong to the miserable Scotch clique of Napier. He was an Englishman; he thanked God he was an Englishman; but had he not been born an Englishman, he would wish to have been born an Irishman, a free, open hearted, generous Irishman—anything rather than a mean, crawling, sly, close Scotchman." He "indulged in this strain for some time".

He wrote to Hooker about "the precious Scotch clique with wh. our Province is infected," and transferred that suspicion to the Governors of the Dunedin Exhibition ("I believe the good *Scotch* commee. have latterly found fault with some of my 'notes'") and to Hector and the editorial board of the Transactions ("Dr Hector is a very superior man & a nice fellow: is he a *Scotchman*? I know not: if he is, he is wonderfully different from the many"). He didn't go out of his way to court academics and scientists, either.

He annoyed the land-owners by opposing the sale of Māori land,<sup>55</sup> and he annoyed Māori land-owners wanting to sell for the same reason; then he embarrassed Christian Māori by committing adultery, his fall in Māori estimation encouraged by McLean.<sup>56</sup> Colenso was thus out of favour with the clergy, viewed by the settlers as a friend of Māori, by Māori as no friend of theirs, no longer a "gentleman" in respectable Hawke's Bay society and a challenge to the big city scientific establishment, its members, of course, as amateur as he.

His distress from the slights and setbacks he suffered at Christian hands are palpable from his "autobiography". Most shameful is the discounting of the role he played in the early history of the Anglican church in William Williams's 1867 *Christianity among the New Zealanders*, a historical account of Church Missionary Society endeavours in New Zealand. Colenso's name does not appear once. Such a self-serving manipulation of history seems just as morally corrupt today as Colenso's lapse by a sexual liaison with his parishioner did then. As late as 1895 the Williams family opposed Colenso's reinstatement in the church.

Despite JD Hooker's praise of Colenso in his preface, Colenso wrote a long and highly critical letter to Hooker pointing out what he regarded as errors in the *Handbook*.<sup>57</sup>

<sup>55</sup> As a correspondent "Anti-quack" wrote to the *Hawke's Bay Herald* on 1 March 1883, "No one will wonder at Mr Colenso avowing himself a philo-Māori. Those who have lived in Hawke's Bay for any length of time know well that he has a leaning towards the darker race, which has, as he himself points out, been manifested on more occasions than one."

<sup>56</sup> <http://www.waitangi-tribunal.govt.nz>. Hori Niania had written to McLean (24 July 1852), "Mr. Golenso has committed adultery with a native woman of our tribe. Her name is Ripeka. If anybody should say it is false, don't you believe them. It is quite true. I could not make a false oath; and since because it is true, I have written you this letter, that you may hear. If any white people should bring the report, don't disbelieve it. Our thoughts are yours in reference to this matter. If you choose to make a great matter of it; or if, on the contrary; well. Our own thoughts however, are inclined towards making a great matter of it; and to distinguish between right and wrong; and because he also has endeavoured to keep us down, and he to raise himself up." (<http://mp.natlib.govt.nz/detail/?id=1000056&l=en>).

<sup>57</sup> 29 November 1865: A few notes made in going through Dr. Hooker's "Hand Book of N. Zealand Flora": see Colenso's collections.

*Amicus Plato, amicus Socrates, sed magis amica veritas*, he wrote:<sup>58</sup> "Plato is my friend, Socrates is my friend, but truth is my greatest friend."<sup>59</sup> Although Hooker's letters to Colenso are lost, in several of Colenso's replies there are references to criticisms Hooker must have made, but there again, Colenso's letters are patient and polite, despite years of participation in the cut and thrust of nasty colonial politics.<sup>60</sup>

Hooker wrote to Hector (14 February 1885), "Our old friend Col will come in for selection [for FRS] this yr again & I shall support him—As the fellow of N.Z. science & collecting as he did in the wilds *without education, and encouragement* it is wonderful what he has effected—many of the plants of NZ flora have been seen by him alone!! Oh, if only he had not written on Botany!—his claims would have been better acknowledged. I shall have to fight v. this in council...."

In March 1882 Colenso wrote a critique to GM Thomson. Thomson's *The ferns and fern allies of New Zealand* was just published and in it he had sunk a number of Colenso's species. Colenso pointed out with similar great patience (but this time in the language of imperious reproach) what he considered "errors". He had earlier received Thomson's invitation to contribute to his new *New Zealand Journal of Science*. He wrote (the first page is missing),

*"A copy of your Ferns &c. I sat up to run through it:—and to tell you the truth, I felt \_\_\_\_\_ well, surprised, & wish you had never published it in that form; for, as I view it, it contains much of error, particularly Chap.III. I should not thus venture to write plainly to you (if indeed, at all,) were you in the position of a private writer, or publisher of such a work, but it is because of your high position of "Science Teacher" in your "High Schools," and the Editor (at least) of your new Journal of Science! Alas! say I, for the rising generation, if such re Ferns, & our N.Z. Ferns in particular, is what they are to be taught. The "Set Up" of your book is on the whole excellent for a Colonial work (barring a few figures in the plates): but your rude demolishing of species, which your predecessors, all able European Pteridologists of fame—had so patiently reared and supported after much examination of ample materials is to me unaccountable, and done too, I fear, without any fair authority on your part—of extensive Fern Library and Herbaria, & long experience & study in such matters; in fact, I am led to believe, that had you this necessary experience you would not have committed yourself to the publication of this work in its present guise. You profess to be guided by Sir W. Hooker's "Species Filicum" & by his & Baker's *Synopsis Filicum*, but in many instances you wholly abandon them your guides! I very much fear you have been led to look too much to Mr. Kirk, indeed, throughout your Book he is your main "authority"! And here I may remark that did not your Book prominently bear your name, I could almost affirm*

<sup>58</sup> 1880 On some new and undescribed New Zealand Ferns. *Trans. N.Z.I.* 13: 376–384.

<sup>59</sup> i.e., "I dont allow the opinions of even very influential friends to deflect me from what I know to be true".

<sup>60</sup> For some of the nastier jousts, see *Give your thoughts life* in this series.

*it was written by Kirk, for I detect much of his (besides the numerous quotations) throughout.— And here, permit me to observe, (as we are comparatively strangers) that my whole life—particularly these last 30 years,—has been spent in an eager search after Truth: whether in Religious, Ecclesiastical, Social and Natural Science, (as you yourself must have occasionally seen in the pages of the “Transactions N.Z.I.” I have not spared even my best & oldest friends mistakes) but then, in doing so, I have shewed where, & sometimes, how, they have existed, although such has often taken me a very long time, both in the study & in research and in the writing. Had you published a work on your favourite pursuit & study (our N.Z. crustaceans)—in which I have with much pleasure seen you were at home & a master, I should have accepted all you would have said with pleasure; but in your taking up this peculiar one of Ferns,—& our N.Z. Ferns, too—I as an old & diligent Fern student of 50 years, easily detect wherein you are wrong,—& hence I write. Having said thus much, it behoves me to give you a few instances (out of many) but I must be brief.”*

Colenso then proceeded to list and explain Thomson's “errors” page by page, ending with

*“And now to the conclusion.—On the whole, and only after much consideration, I have deemed it best not to send you the Ruahine Journey MSS. for your new serial; also, not to write for it a Memoir of A. Cunningham as intended. We seem so diametrically opposed in our Botanical views, &c, that I think I had better keep out of your arena altogether; because you there (and your Botanical authority Mr. Kirk) will have as a matter of course, to supplement & back up your publication for your students; & I have no desire to be either tacitly passing by or always correcting of error. Besides I have painfully known what it is to write against an Editor in his own paper. At the same time I confess, it has grieved me not a little to be obliged to come to this decision, re the above papers, & I shall have much to do with my friends here, I know, but I see at present no other honourable alternative (I wish I could) for there are passages in my MSS. which bear directly on some of your great alterations and you could not (perhaps) well insert them & I would not allow of their being struck out or modified; as I have had a little too long experience among our N.Z. Ferns &c &c to think of this. You, I know, will not (cannot) be pleased with my present letter; believe me, it has been an irksome task to me to write it, but I am borne up in believing that I have only attemptd honestly and plainly to perform a duty—and duties are frequently unpleasant—and to write upon a subject I think I fully understand.*

I am, Dear Sir,  
Yours faithfully,  
Wm. Colenso.”

I have quoted this letter at length, for TM Hocken, the homely book-collector (who sat with Thomson on the Council of the Otago Institute) later marked Colenso's letter with the rather exaggerated annotation, “The above is a good specimen of Colenso's nasty, bitter way in criticism.

He was a jealous man & was loth to allow that anyone in N.Z. knew much about N.Z. botany but himself”.

Hocken had enjoyed a very successful visit to Colenso in Napier with Augustus Hamilton, but later sent some of his writing for Colenso's opinion and when Colenso gave it with his usual frankness, their correspondence ended.

Others were questioning Colenso's expertise.

Kirk<sup>61</sup> wrote mildly to Hooker (11 August 1883), “Is there any reason to suppose the *Monoclea* which I sent you some time back to be at all different from Forster's plant? Colenso has described it as *M. Hookeri*—but as it seems to me without sufficient grounds.”<sup>62</sup>

Hector, ex-Otago but now in Wellington and editor of the *Transactions*, wrote to JD Hooker on 23 April 1883, “Cheeseman tells me that you have written to him expressing a wish to undertake the production of a new edition of the Handbook & the Flora. This is good news indeed, as when you last wrote to me on the subject I gathered that you thought we must now shift for ourselves in such matters. In my opinion this would be very unfortunate as after all our writers out here are mostly self taught amateurs whose work can only be made useful by being sat upon by some great authority like yourself....”.<sup>63</sup> Which self taught amateur but Colenso would have considered himself a candidate for rewriting the *Handbook*?

Colenso was defensive about criticisms from Kew: “I was a little surprised, as you may well suppose, in reading what Prof. Oliver & Mr. Baker had written of the plants I sent you! I must still think, in many respects they are wrong, particularly Mr. Baker...”.<sup>64</sup>

He must have become aware, from Hooker, of his New Zealand colleagues' criticisms too, and he was indignant. He railed bitterly to Hooker on 12 July 1884<sup>65</sup> about those who questioned his new species,

*“... I cannot shut my eyes to two facts bearing hereon:—1. that Mr. Baker made similar errors on Ferns of mine (& of others too) in past years. Ex. gr. *Hymen. villosum* *Lindsæa viridis*, *Polypodium sylvaticum*, etc., though lately restored by him, & inserted in his pubd. papers. And, 2.—that this is just exactly what ½ doz. of that chattering neophyte-botanists here in this Country, N. & S. of me, have done! and published in our Papers, &c., concerning my new ferns, &c., &c., (having moved thereto by sheer envy—as I take it),—although they have been obliged to allow—that they had never seen my ferns!—and for their conduct some of them have been privately taken to task by their patrons.*

*“You cannot form a correct idea of how these fellows,—first schoolmasters, then dubbed ‘Science-*

61 Colenso had intimated to Hooker (29 November 1867), “I have written, more for (& to) Kirk, during the last 2 years, than I have for any other priv. person—he too being wholly unknown to me. I have named a large lot of N.Z. scraps he sent me, & encouraged him in *every* way. (He is very poor & struggling.)” See *Colenso's collections*.

62 Kew Directors' Correspondence; ATL Micro-Ms-Coll-10.

63 Kew Directors' Correspondence; ATL Micro-Ms-Coll-10.

64 Colenso to Hooker 27 February 1884; see *Colenso's collections*.

65 see *Colenso's collections*.

teachers' (*Pshaw!*) then 'Professors' &c.,<sup>66</sup>—how they have banded together against me! and that (as far as I know) only because of the success that has attended my labours in the dense unvisited forests and ravines, where these precious carpet knights (who make so much fuss of a one-day's outing with a lot of ladies!) dare not show their noses!! They write over & over, usques ad nausum, of the introduced Brit. weeds, & such easy compilations—and Hector publishes their trash (some of it) in, the 'Trans.'! (through influence of 'Board'). They also write I know, to Kew,—and I regret to see Mr Baker too readily adopting their views of my ferns &c. Those are the Tyros whom I had in view when I wrote p.32 in my '3 Literary Papers', and they know it. Gods! how I helped them all at first. This their old letters to me will show. They belong to the cunning mole-working class so well described by Sir Wm Fox as 'Brain-suckers'!<sup>67</sup> But enough of this."

Four Thomson letters to Kew have survived in the volumes of Kew correspondence, but none discusses the taxonomy of ferns.

On 28 March 1884 Hector wrote again to Hooker, "By separate post parcel I send you an early pull of the Section Botany of the XVI Vol. of the N.Z. Inst. Transactions which I hope to get out in about a month hence. You will be rather astonished I think at Colenso's paper & the number of new species he makes. I don't pretend to judge but I do think some botanist should make a *deliverance* (as the Scotch lawyers say) on the subject of whether such a paper is to be considered justified or not."<sup>68</sup>

And on 12 September 1884,  
"The only point on which Kirk & Colenso rely for distinguishing C. Indivisa of N. & S. Is. is the number of heads in the N.I. species—but of course that is no character at all."<sup>69</sup>

Clearly GM Thomson had taken offence, and when the opportunity presented itself (1891) he responded with ill-concealed editorial glee in his *NZ Journal of Science* where he abstracted a paper by JG Baker which had reduced a couple of dozen Colenso ferns to synonymy with earlier species. He began,

*Nearly every volume of the Transactions of the New Zealand Institute for the past ten or fifteen years has contained descriptions of new species of plants, and among these new ferns have been frequently included. When the present writer brought out his "Ferns and Fern Allies of New Zealand" in 1882, he felt compelled to reduce many of these new species to the rank of mere varieties of already known forms, a course which subjected him in certain quarters to considerable obloquy. The latest*

66 GM Thomson and T Kirk certainly; TF Cheeseman, C Knight perhaps.

67 Sir William Fox, KCMG 1812–1893 was Premier of New Zealand on four occasions in the 19th century. He was known for his support of Māori land rights, his contributions to establishing the University of New Zealand, and his work to increase New Zealand's autonomy from Britain. He has been described as determined and intelligent, but also as bitter and "too fond" of personal attacks. (Wikipedia).

68 Kew Directors' Correspondence; ATL Micro-Ms-Coll-10.

69 Kew Directors' Correspondence; ATL Micro-Ms-Coll-10.

number of the 'Annals of Botany' contains the first part of a paper by Mr. J.G. Baker in which all new ferns which have been discovered or described since 1874 are summarised. The following notes are extracted from this paper and will enable collectors of New Zealand ferns to reduce some of their aberrant forms to their correct species.—G.M.T.<sup>70</sup>

Who was right? Fern specialist Patrick Brownsey wrote, "Colenso had an eye for variation and was a good field botanist. Unfortunately, however, I think he was very definitely a splitter, didn't have a good understanding of the modern concept of a species, and described every minor variant that he found. Baker was more critical and attempted to bring some order to what he perceived to be an overloaded taxonomy. However, he was herbarium based and a long way from New Zealand, so he made mistakes. A lot of Colenso's names have stood the test of time simply because he described so many, rather than because he fully understood what he was observing." (Brownsey P: pers. comm. 1 July 2009).

Michael Hoare wrote of Johann Reinhold Forster, "The Wales myth that Forster's difficult temperament was matched by scientific ineptitude has been perpetuated and enlarged upon by many writers,"<sup>71</sup> and Colenso has suffered the same fate. Those who didn't like the negative aspects of his character have misdirected their *argumenta ad hominem* to his work and his writing. Colenso wrote, "assumption and abuse of an adversary is not argument". He called his detractors "narrow minded orthodox men of small calibre".

He wrote often about truth (see below), the importance of evidence, the scientific method and the weaknesses of those who took shortcuts: "No pleasure is comparable to the standing upon the vantage-ground of truth," he often quoted from Francis Bacon.

Perhaps for that reason too his work has not been given its due. Perhaps no pleasure is comparable to the taking down of one who too often claims to be standing upon the vantage ground of truth. As one correspondent, "XYZ", wrote to the *Hawke's Bay Times* (30 March 1869), Colenso should have heeded "...the words of Lord Dundonald —'That they who, in political matters, propose to themselves a strict and rigid adherence to the truth of their convictions, irrespective of personal consequences, must expect obloquy rather than reward; and that they who obstinately pursue their professional duty in the face of routine and official prejudice, may think themselves lucky if they escape persecution.'"

Colenso wrote, "A man with an untrammeled mind is rare.—Generally all have so much to unlearn first" (letter to Andrew Luff 18 July 1878).

More than two hundred years after his birth we might untrammel our minds, unlearn the perceptions of the past, put aside the influence of his personal shortcomings and recognise Colenso's astonishing contributions.

New Zealand had a pioneer scientist and writer of immense culture, capability and determination, and thus, inevitably and happily, of great achievement.

70 Thomson GM 1891. Recent additions to the fern flora of New Zealand. *NZ Journal of Science* 1(4, July): 166-169.

71 Hoare M. *The tactless philosopher*. The Hawthorn Press, Melbourne, 1976.

## Colenso on truth, beauty and faith

*And here, permit me to observe... that my whole life—particularly these last 30 years,—has been spent in an eager search after Truth: whether in Religious, Ecclesiastical, Social and Natural Science....<sup>72</sup>*

The Reverend William Colenso was born in 1811 and died in 1899. He therefore lived through the Victorian age, when the perception of truth changed forever. As a young man he was taught that the word of God was absolute truth. As an old man who had met Darwin, who had met and corresponded with Hooker, who had corresponded with Huxley—whose own cousin had famously written that the first five books of the Old Testament were not the Word of God, but often inaccurate accounts of Jewish history—he had acquired evidence that questioned his faith, that questioned the Church, that questioned even whether those qualities traditionally said to separate man from the “lower animals” had any basis in reality.

As with many Victorians, he was preoccupied therefore with the nature of truth. He scattered quotations about truth, honesty and simplicity through his writing.

*“We delight in things that are true, that is, that are faithful, simple, permanent; such as are vain, false, deceitful we abhor.”*

Cicero.

He approvingly quoted Stansfield Parkinson’s introduction to the published journals of his brother Sydney Parkinson,

*“I have heard many of the surviving companions of this amiable young man dwell with pleasure on the relation of his singular simplicity of conduct, his sincere regard for truth, his ardent thirst after knowledge, his indefatigable industry to obtain it, and his generous disposition in freely communicating with the most friendly participation to others, that information which none but himself could have obtained.... it should be said of his journal... that its only ornament is truth, and its best recommendation, characteristic of himself, its genuine simplicity.”<sup>73</sup>*

Colenso could see much of himself in this.

His determination to be truthful would not be diverted by less worthy considerations such as friendship, failure to convince, or misunderstanding by others.

He quoted 4<sup>th</sup> century Pope Clement’s *Recognitions*, and contemporary Oxford Professor Benjamin Jowett...

*“It very frequently happens that he who defends the truth does not gain the victory, since the hearers are either prejudiced, or have no great interest in the better cause.”*

Clement.

*“We cannot express any truth without involving ourselves in some degree of error or occasionally conveying an impression to others wholly erroneous.”*

Benjamin Jowett.<sup>74</sup>

He became preoccupied with the scientific method, and stressed the importance of good education in instilling into learners a disciplined way of discovering truth.

*Now what I mean by a scientific education is, the teaching of the power of observing; the teaching of accuracy; the difficulty of attaining to a real knowledge of the truth; and the methods by which one may pass from that which was proved, to the thought of that which was also capable of being proved. The first thing to learn is the power of observing, the power of seeing things in their relations to other things, and the modifications they might undergo; this, though a difficult thing, is attainable. Science teaches not only how to observe, but how to record facts, and how to arrive at general conclusions upon facts. The habit of accuracy which Science inculcates, makes a man accurate in the ordinary business and pursuits of life.*

We can be too easily diverted from that accurate scientific approach by bias, by fancy, by pet theories and preconceived notions, and by ignoring evidence properly attained by others. Colenso quoted...

*“Past experience of the chance aims of human fancy, unchecked and unguided by observed facts, shows how widely they have ever glanced away from the gold centre of truth.”*

Richard Owen.

*“Every kind of evidence is made to tell by writers who have a theory to defend.”*

Max Müller.

*“Time erases the fictions of unfounded opinions; but confirms the judgements which are in accordance with truth.”*

—Cicero.

*“The truth is perilous never to the true, Nor knowledge to the wise; and to the fool, And to the false, error and truth alike. Error is worse than ignorance.”*

Bailey, Festus.

*“If an offence come out of the Truth, better is it that the offence come than that the Truth be concealed.”*

—JEROME.

*It being now evening time with me, and through my having noticed the many crude theories which have been broached concerning the Whence of the Maori, not a few of which, by their several writers, have been laboriously propped and buttressed with all and every item, however insignificant, far-fetched,*

72 Colenso to GM Thomson, March 1882.

73 1877 Manibus Parkinsonibus sacram. Trans. N.Z.I.10: 115.

74 Benjamin Jowett 1817–1893, theologian, Regius Professor of Greek at Oxford, Master of Balliol College, Vice-Chancellor of the university.

75 1888 Hawke’s Bay Philosophical Institute: Anniversary Address.

*and vague, they could possibly impress and bring forward, but in which, in my estimation, they have notwithstanding signally failed, because they laboured to build up a pet fancy or hobby of their own rather than the truth; some even starting with assuming the very proposition which they had to prove. For my own part, I altogether disclaim all such; I have no pet theory; I only seek the truth; to do what little I may towards establishing it;...”.*<sup>76</sup>

*I did not intend to write another line on this subject of the Moa age, but in this same volume (xxv.), in the Proceedings of the Wellington Philosophical Society, are many observations made at different meetings of the Society by the members present on this theme. Some of them I am really sorry to find recorded there, because they are merely the old, old stories and tales which have long ago been answered, and shown to be untenable, and refuted, and therefore such should not be again resurrected. Indeed, in so doing, the truth—the “true facts”—will never be arrived at;<sup>77</sup> and that true and proper remark of Max Müller (in his late lectures at Glasgow, as brought forward by me in a paper in this same volume, p. 496) is very applicable here: “What is of immense importance in all scientific discussions is the spirit of truth. To make light of a fact that has been established, to ignore intentionally an argument which we cannot refute, to throw out guesses which we know we cannot prove—nay, which we do not even attempt to prove—is simply wrong, and poisons the air in which true science can breathe and live.”<sup>78</sup>*

*... I might justly and properly add... the great and good matter of State Education—civil and scientific, reasonable and truly religious,—recently undertaken by the Government of our Country: but this is yet in its infancy, and would require a whole paper to do it justice. Thus much, however, I would say, as it bears greatly on our subject of “Sabbath Observance,”—that the sooner the various and dissonant old Church Catechisms are altered, (Like the new Bible Commentary, and the new translation of the Bible,) and so made conformable to truth, and to truthful religious and scientific teaching, the better for the children, (especially those at Sunday Schools,) and for the future generation,—aye, for the rising state of New Zealand.—And here I would call attention to some solemn words of a late Archbishop of the English Church,—words well worthy of being weighed by all Teachers,—whether of Sunday or of Day School—by religions as well as scientific Teachers of all classes:—“He who propagates a delusion, and he who connives at it when already existing, both tamper with Truth. We must neither lead nor leave men to mistake falsehood for Truth. Not to undeceive, is to deceive. The giving, or not correcting, false reasons for right*

76 1878 Contributions towards a better Knowledge of the Maori Race. *Trans. N.Z.I.* 11: 77.

77 Perhaps here referring to Darwin’s “False facts are highly injurious to the progress of science, for they often endure long” (*The descent of man*, Ch.XXI).

78 Friedrich Max Müller 1823–1900, German philologist and Orientalist, a founder of the discipline of comparative religion.

*conclusions, false grounds for right belief, false principles for right practice,—the holding forth or fostering false consolations, false encouragements, or false sanctions, or conniving at their being held forth or believed,—are all pious frauds. This springs from, and it will foster and increase, a want of veneration for Truth: it is an affront put upon the Spirit of Truth.” On these words I would ask one question—of Ministers and Sunday School Teachers. How can we serve the Living and True God, except so far as we are servants of the Truth? And how can we be servants of the Truth, if we knowingly shut our eyes to facts which we do not like, because they conflict with our preconceived notions; and if we not only do this ourselves, but attempt to close, or to keep shut, or to throw dust in, the eyes of others under our influence, that they may not be able to see the facts which God’s wise Providence, in this age of the world, has made known to us for our instruction and guidance in life?*<sup>79</sup>

Furthermore, the motivation for seeking the truth should simply be the love of truth, because only from that purity of purpose can the world’s beauty be understood and appreciated: “there is a rapture in gazing with a trained eye on this wondrous world.”

*In student-life there are those who seek knowledge for its own sake, and there are those who seek it for the sake of the prize, and the honour, and the subsequent success in life that knowledge brings. To those who seek knowledge for its own sake the labour is itself reward. Attainment is the highest reward. Doubtless the prize stimulates exertion, encourages and forms a part of the motive, but only a subordinate one, and knowledge would still have a “price above rubies” if there were no prize at all. They who seek knowledge for the sake of a prize are not genuine lovers of knowledge. They only love the rewards of knowledge; had it no honour or substantial advantage connected with it they would be indolent. It is a spurious goodness which is good for the sake of reward. The child that speaks truth for the sake of the praise of truth is not truthful; the man who is honest because “honesty is the best policy” has not integrity in his heart. Would that the parents of families here in Hawke’s Bay could be brought to duly consider this, and to perceive the great and lasting advantages and benefits and true pleasures arising from the following of Nature and her manifold teachings, and so direct and lead their progeny into something better than the low frivolities and transient pleasures and waste of time of the present age.*

*For, believe me, there is a rapture in gazing with a trained eye on this wondrous world. Let us not depreciate what God has given. The highest pleasure of sensation comes through the eye; she ranks above all the rest of the senses in dignity. He whose eye is so refined by culture and discipline that he can repose with pleasure upon the serene outline of beautiful forms has reached the purest of the sensational raptures. There is a joy in contemplating the manifold forms in which the All-*

79 1878 *Tracts for the times*; No. 1, On the Sabbath and its due observance. Dinwiddie, Morrison & Co., Napier. pp.34-35.

*beautiful has concealed His essence—the living garment in which the Invisible has robed His mysterious loveliness. In every aspect of nature there is joy; whether it be the purity of virgin morning, or the sombre grey of a day of clouds, or the solemn pomp and majesty of night; whether it be the chaste lines of the crystal on the yonder Ruahine Mountain-range, or the waving ever-changing outlines of distant hills (as those south beyond Havelock and north towards Wairoa) tremulously visible through the slanting rays of the setting sun; the minute petals of the New Zealand daisy, or the overhanging forms of mysterious ancient forests: it is a pure delight to see. I hope a better day is at hand for our Government schools, when Education Boards (if existing) or Committees (when formed of proper literate men) will pay full attention to this one great qualification, or main desideratum, on the part of teachers seeking situations—viz., their love for natural science and for scientific study, and their aptness to teach such both out of school as well as in school. Such a teacher in a country school would prove a real blessing to the youths under his care, and be a great means of keeping them from degenerating on leaving school, as well as preserving them from “larrikinism.” Scientific study should be largely inculcated by kind and plain words, by manuals, and by example, for science has extended into all portions of life. What I mean by a scientific education is not the mere confined knowledge of that one branch taught, or one thing brought more particularly under consideration, whether Euclid’s problems or natural science—the science of living things, as seen in the wondrous, complex, yet perfect and beautiful structure of a fly, a shell-fish, or a moss (for beauty’s best in unregarded things)—the mention of which as a useful study is too often met with a “Cui bono?” For the opinion is often expressed that certain scientific pursuits are not compatible with the business pursuits of life. But there is no greater fallacy than this, as we may see in the living*

The Maori legends were allegories of truth...

*I would, however, again observe,—that while the details, the dress, of a legend are always false, and not unfrequently variously fashioned and contrived, the legend itself contains a kernel of truth; a mere invention never becomes a legend.<sup>80</sup>*

*The celebrated myths of dry land and sky; of Maui fishing up the North Island of New Zealand; of his obtaining fire for man; of his seizing and beating the sun, to have longer daylight; and of the untimely death of the hero through the laughing of the little New Zealand flycatcher; of the ascent to heaven of Rupe and of Tawhake; of the arrival of the first New Zealanders in this country; and many others; are all so many indications of the mind of man groping after truth in ages long past. In the writer’s opinion many of those myths will be found to be allegorical.<sup>81</sup>*

80 1889 *Ancient tide-lore and tales of the sea*. R.C. Harding, Napier.

81 1868 On the Maori Races of New Zealand. *Trans. N.Z.I.* 1: 48.

He admired Maori for their “ideality”, their Aristotelean quest for a perfect state, and there are places where he gave hints of a metaphysical concept of a unifying theory, a connectedness, a “theory of everything”.<sup>82</sup>

*Here, however, let me pause awhile to explain clearly, yet briefly, what I mean by the term Ideality: I mean that superior faculty—that conception of the natural and beautiful, the truthful and symmetrical, which has ever been found to pertain to the higher races, or varieties of men, and in particular to the more gifted among them. As Cousin says (*On the Beautiful*):— “The Ideal appears as an original conception of the mind. ... Nature or experience gives me the occasion for conceiving the ideal, but the ideal is something entirely different from experience or nature, so that if we apply it to natural, or even to artificial figures, they cannot fill up the condition of the ideal conception, and we are obliged to imagine them exact.” Kant lays it down— “By ideal, I understand the idea, not in concreto but in individuo, as an individual thing, determinable or determined by the idea alone.” On this subject, also, Emerson impressively writes:— “I hasten to state the principle which prescribes, through different means, its firm law to the useful and beautiful arts. The law is this: The universal soul is the alone creator of the useful and the beautiful; therefore, to make anything useful or beautiful, the individual must be submitted to the universal mind. ... Beneath a necessity thus almighty, what is artificial in man’s life seems insignificant. He seems to take his task so minutely from intimations of Nature, that his works become, as it were, hers, and he is no longer free. ... There is but one Reason. The mind that made the world is not one mind, but the mind. Every man is an inlet to the same, and to all of the same. And every work of art is a more or less sure manifestation of the same. ... We feel, in seeing a noble building, much as we do in hearing a perfect song, that it is spiritually organic; that is, had a necessity in nature for being; was one of the possible forms in the Divine mind, and is now only discovered and executed by the artist, not arbitrarily composed by him. ... The highest praise we can attribute to any writer, painter, sculptor, builder, is, that he actually possessed the thought or feeling with which he has inspired us.” That delightful writer on Art, J. Ruskin—whether considered as artist or art critic—always in love with the Beautiful, and possessing the wonderful power of telling it in such charming language, says:— “I call an idea great in proportion as it is received by a higher faculty of the mind, and as it more fully occupies, and in occupying, exercises and exalts, the faculty by which it is received. ... He is the greatest artist who has embodied in the sum of his works the greatest number of the greatest ideas.” Then Ruskin contrasts the old Venetian worker in glass, with his profusion of design, his personality of purpose, and his love of his art, with the British worker with his mechanical accuracy. “Everything the old Venetian worker made was a separate thing — a new individual creation; but the*

82 The “theory of everything” purports to explain and link all known physical phenomena.

*British worker does things by the gross, and has no personal interest in any one article.”*

... According to Cicero, there is nothing of any kind so fair that there may not be a fairer conceived by the mind. He says:— “We can conceive of statues more perfect than those of Phidias. Nor did the artist, when he made the statue of Jupiter or Minerva, contemplate any one individual from which to take a likeness; but there was in his mind a form of beauty, gazing on which, he guided his hand and skill in imitation of it...”.

Possibly some one may say, or think: “Do you really believe that any thing of that kind, or power, ever appertained to the mind of a New Zealander?” And my reply would be: “Yes, undoubtedly, and that in no small degree.”<sup>83</sup>

The circle is “the perfect, first, most beautiful form,” wrote Aristotle. Maori showed a similar aesthetic, wrote Colenso. They...

...greatly excelled in order and regularity, which they carried into almost everything they did; as shown in their parallel carving, regular in its wildness, and in tattooing the right and left faces and posteriors, with circles and scrolls almost mathematically exact;<sup>84</sup>

In the building of their war-canoes .... The exquisite regularity and symmetry of both sides of the vessel, including even that difficult one of carved concentric circles worked in filagree, were astonishing;<sup>85</sup>

He sought signs of a Grand Design. Ancient Greek philosophers speculated that the diversity we perceive masks links that if visible would reveal an underlying unity. Colenso wrote to David Balfour...

... it would be a really good thing if every plant—however useless or noxious, or insignificant,—could first be known, and accurately described before it gets polished off! For all such (animal & vegetable) are wanted to make up the unbroken chain;— that links animate & inanimate nature together.<sup>86</sup>

“A motion and a spirit, that impels  
All thinking things, all objects of all thought,  
And rolls through all things.”—

WORDSWORTH.<sup>87</sup>

Science then (and of course the afterlife), would discover the truth, the eternal invisible chain of gold and diamonds that ties everything to its ordered place, would thereby reveal the divine purpose of the Creator, and would thus strengthen, rather than weaken, faith.

Some of you now present have heard me quote pertinent language from Sir J. Lubbock bearing on this subject; words which I would were engraved in brass or in marble, or written in letters of gold and

83 1878 Contributions towards a better Knowledge of the Maori Race. *Trans. N.Z.I.* 11: 77.

84 1868 On the Maori Races of New Zealand. *Trans. N.Z.I.* 1: 29.

85 1878 Contributions towards a better Knowledge of the Maori Race. *Trans. N.Z.I.* 11: 81.

86 Colenso to Balfour 13 July 1886.

87 Quoted in Colenso's *In memoriam*.

stuck up in the forum; words which I now again with pleasure repeat:—

“Every increase in Science—that is, in positive and ascertained knowledge—brings with it an elevation of Religion.... The immense services which Science has thus rendered to the cause of Religion and Humanity has not yet received the recognition which it deserves. Science is still regarded by many excellent, but narrow-minded, persons as hostile to religious truth; while, in fact, she is only opposed to religious error. The time is approaching when it will be generally perceived that, so far from Science being opposed to Religion, true Religion without Science is impossible.” —(*Origin of Civilisation*, p. 292.)

For my strong and growing belief is, that there is an eternal invisible golden or adamantine chain, extending alike through all, and continually and securely binding all together in their proper sequence for good: future times will show the truth of this. Now and then, here and there, a link of this chain is found, hit upon accidentally as it were, discovered (much as we daily hear of gold, and precious stones, and still more precious medicines,) by energetic ever-seeking ever-advancing man, for the common good of our race.<sup>88</sup>

Three months before he died Colenso quoted seventeenth century English poet Francis Quarles:

“True Faith and Reason are the soul's two eyes.”

and in the end that is his credo: integration of what he was taught and what he learned, of belief and observation, of art and science, of beauty and truth.

“Beauty is truth, and truth beauty,”—that is all ye know on earth and all ye need to know.

Keats, *Ode on a Grecian urn*, 1819.

## Acknowledgements & conventions

*Pygmaei sumus, gigantum humeris impositi.*<sup>89</sup>

I have relied heavily on AG Bagnall and GC Petersen's 1948 classic *William Colenso—printer, missionary, botanist, explorer, politician—his life and journeys*. AH & AW Reed, Wellington; to a considerable extent I believe they underestimated Colenso, particularly the work after his retirement.

I wish to thank the staff of the libraries and museums from which much of this material has been sourced: the Alexander Turnbull Library (ATL), New Zealand National

88 1888 Hawke's Bay Philosophical Institute: Anniversary Address by the President, William Colenso, F.R.S., F.L.S. R.C. Harding, Napier.

89 We are dwarves, placed upon the shoulder of giants (ie, and only thus can we see further than they). After Isaac Newton, who was in turn paraphrasing Bernard of Chartres.

Archives (Archives), the Hocken Library Uaretaoka o Häkena (Hocken), the Auckland Museum Library, Hawke's Bay Museums Trust Ruawharo Tā-ū-rangi (MTGHB), Puke Ariki New Plymouth, the Australian National Library, the Mitchell Library at the State Library of New South Wales, the Tasmanian Archive and Heritage Office, State Library of Tasmania, the Morrab Library and the Penlee House Gallery and Museum, Penzance, the herbarium of the Royal Botanic Gardens, Kew.

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Much of the text has been scanned from original documents or photocopies. I take full responsibility for any transcription errors.

### **Conventions**

I have selected papers written in English by Colenso (but not those written by others and printed by him), and have excluded the early religious tracts in Māori (see above) and have dealt elsewhere with his many letters published in newspapers. I have not reproduced the annual reports he wrote for the Hawke's Bay Philosophical Society.

The papers in each volume are here in chronological order of publication because a time sequence to some extent reveals the development of his interests and ideas.

Colenso's plants were identified in the footnotes by reference to the Te Papa website <http://collections.tepapa.govt.nz/>, to the New Zealand Plant Conservation Network's website, <http://www.nzpcn.org.nz/>, to the electronic Flora of New Zealand, <http://floraseries.landcareresearch.co.nz/pages/search.aspx>, to the Missouri Botanic Garden website <http://www.tropicos.org/Home.aspx>, and elsewhere. "Stet" indicates that Colenso's name stands; "Not found" indicates I could not find the name in these databases; *Inc. sed.* = *incertæ sedis* = of uncertain placement.

References are in sequenced superscript Roman numerals. Colenso's own footnotes are included in the text or as footnotes identified by "WC:" and those of his editors are also signed "Ed."

Numbers in bold square brackets indicate original pagination.

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**History of Mounts Bay with every civil and military transaction, Saint Michael's Mount, Marazion, Penzance, Paul, Buryan, Saint Levan, Sennen, Saint Just, &c.** The third edition, revised and corrected with considerable additions. Penzance; printed by and for John Thomas, and sold by T. Tegg, 73 Cheapside, London.<sup>90</sup>



**PREFACE.**

In compiling a work of this nature, the chief object in view, has been to supply at a moderate expence, an ancient and modern history of the most interesting parts of MOUNT'S BAY, and adjacent Parishes, which is esteemed more antique and romantic, than any other part of England.

With this view, the compiler has been induced to cull from the various publications on this district, an account of every thing remarkable in it; in doing which he has omitted all abstruse arguments, or disputable points, being well aware that to the generality of readers they afford little or no entertainment.

Whatever peculiarly distinguishes the County, either in the vegetation which adorns its surface, its subterranean treasures, or monumental antiquities, are principally to be found in this part of it.

This little book having gone through three Editions, in the short space of a few years, the compiler therefore ventures to recommend this work to a generous public, as it will afford ample amusement to the traveller, resident and native.

**THE HISTORY OF MOUNT'S BAY AND ADJACENT PARISHES.**

BEFORE we proceed to investigate the towns and villages in this district, it will be necessary to give a brief account of this delightful Bay, which is situated at the most western extremity of England; it is formed by an irregularly curved outline of several miles in extent, whose southern and western points form the promontories of the LIZARD and LAND'S END.

The Mount's Bay presents a most delightful and interesting view to travellers, as its shores are sprinkled with towns, villages, churches, cottages, and villas; and near its eastern margin, a pile of rocks, supporting a venerable chapel and

tower on their summit, starts abruptly from the waves and present a most singular and pleasing appearance, this is ST. MICHAEL'S MOUNT, from which this pleasant part of our Island derives its name.

The CLIMATE of this Bay is the principal circumstance which has contributed to its celebrity, and has proved so inviting and beneficial to consumptive patients; notwithstanding its southern latitude, the summers are never sultry, on account of the winds which gently blow from the surrounding seas; whilst the cold of winter is equally ameliorated, so that frosts are but of a few hours duration, and those snow storms which come from the north and east, and bury the fields of every other part of England, are generally exhausted before they reach this favored spot, or are dissolved by its warm breezes;—indeed our winters are nothing more than languid springs, as all greenhouse plants in other places, are here constantly exposed all the winter, notwithstanding which they flower most luxuriantly during the summer; it might also be observed, that when pot-herbs of all kinds are destroyed in other counties, our markets are constantly supplied;—and here a favorable opportunity occurs of placing upon record a testimony of the mildness of this spot, during the winter of 1819, when the cold was so dreadfully severe, the rivers frozen up, and the fields buried with snow in every other part of Great Britain, the MOUNT'S BAY was nearly exempted from snow, and the frost was so gentle, that the huntsman was not deprived of his sport for a single hour.

From the peninsular situation of Cornwall, and its proximity to the Atlantic ocean, over which it blows, nearly three quarters of the year, the weather is certainly very subject to rain, and it is found that when other parts of England suffer by drought, that Cornwall has seldom any reason to complain; this peculiarity seems highly congenial to the inhabitants, as well as to their soil, a Cornishman never enjoys better health and spirits than in rainy weather, and there is a popular adage, that “the land of Cornwall will bear a shower every week-day and two on a Sunday;” it may however be remarked, that the rains in Cornwall are rather frequent than heavy and excessive, indeed it has been satisfactorily ascertained by experience, that the actual quantity is not greater than in other Counties; there is very rarely a day so thoroughly wet, but that there is a considerable intermission, not so obscure, but that the sun often penetrates the gloom; notwithstanding the supposed moisture of Cornwall, the dry and porous nature of the soil soon disposes of any water, so that after a very short cessation of rain, the most delicate invalid may safely venture abroad to enjoy the delightful walks, which every where surround this bay.—Having given a brief sketch of the bay, we will now introduce to our readers some historical account of ST. MICHAEL'S MOUNT and the adjacent PARISHES.

**ST MICHAEL'S MOUNT**

THIS sublime spectacle is situate within the range of the parish of St. Hilary, and is one of those rare and singular objects, which impress the mind with sensations of veneration, pleasure, and astonishment the instant it is seen: its situation is about thirteen miles from the most western land in England, in the inmost recess of the Mount's Bay. This mountain, which is surrounded with the sea six hours out of twelve, is about four hundred yards from the shores of Marazion. At its base it is upwards of a mile in

90 Attributed to William Colenso.

circumference; and from the sand which lies around it, to the summit of the tower crowning its apex, is about two hundred and fifty feet. At high water it appears, from its being insulated, and from that vast expanse of horizon which is seen in every direction, to be considerably diminished in its circumference; but even this variation adds much to the beauty and enchantment of the scene; and it then seems to be a mass of natural rocks and acclivities, partly clothed with verdure, and terminating in a point that is crowned with the triumphs of art. At low water, it may be easily approached over a kind of causeway formed of pebbles and shingle, and raised a little above the common bed of sand, across which it stretches.

On approaching the Mount, (the Visitor will perceive a wall lately erected, about nine feet high and four hundred feet long, built, for the purpose of repelling the encroachments of the sea;) it assumes its real magnitude, and many of its rocks appear gigantic and terrible, from their extraordinary elevation. The general stratum, consists of a hard granite, in which transparent quartz is the predominant substance. Viewed from various directions, its appearance presents a diversity of aspects; in some places its ascent being nearly perpendicular, and in others of gentle and easy acclivity. But although in themselves these rocks are completely craggy and barren, yet they furnish interstices and occasional plains, in which verdure is produced, sufficient to support a few sheep, and a vast number of rabbits, which from time immemorial have found a residence on the Mount. About thirty years since, some plantations of fir were introduced, which tended to heighten the beauty of the scene, as they waved their branches over the gloomy rocks which they shaded; but their proximity to the sea, combined with the sterility of the soil occasioned them to wither, when they were cut down, and the ground they occupied has been planted with evergreen oaks. Even a distant view of St. Michael's Mount excites ideas of solemn grandeur; but the effect is considerably heightened, when the spectator gradually ascends its craggy sides, and slowly winds his way to their summit, among pendant rocks and awful precipices, from which he looks down on diminishing objects below, and catches the fire of enthusiasm, from a recollection of departed ages, and from a vast expanse of sea and land that become instantly exposed to his view. This celebrated Mount has at different times been distinguished by various names, its ancient Cornish appellation signifying its being formerly ‘a hoar rock in the midst of woods.’ In the book of Landaff it is called *Dinsul*, a word which signifies a hill dedicated to the sun; or, if it is a contraction of *Dinas-whal*, it signifies a hill difficult of ascent. In the beginning of the sixth century, if not long before, it was called St. Michael's Mount, afterwards by the Saxons it was denominated *Mychelstow*; and according to Scawen, *St. Michael de magno Monte*.

‘St. Michael's Mount,’ we are informed by Worcester, ‘was originally enclosed with very thick wood, distant from the ocean six miles; the Cornish name of it *Carreg Lúig en Kúg*.’ Worcester is the oldest writer who gives the signification of it, he informing us, that the Mount was formerly denominated ‘Le Hore Rok in the Wodd.’

When this hill was first dedicated to religious worship, can hardly be ascertained with certainty; there can be little doubt that it was very early, perhaps as soon as Christianity first gained a footing in Cornwall. At that early period, such hills and romantic situations, were deemed congenial to sanctity, and quickly attracted the notice of such as wished to live

retired from the world.—Hence, hermits and pilgrims of both sexes, renouncing the delicacies of life, retired among rocks, and took up their abode among hills difficult of access, where they became admired for their austerities, and honoured by novices and probationers, who were ardent to succeed them in their holy enterprizes; especially as their habitations were dignified with miracles, which credulity was ever willing to allow, and ready to believe.

The pilgrims in those days, had a tradition, that these hills were occasionally visited by the inhabitants of the celestial regions; among the rest Michael the arch-angel was presumed to be very fond of perching among these rocks, and rendering himself visible to the credulous monks, who were ever ready to substitute imagination for fact: the monks who first inhabited the Cornish Mount, laid claim to this angelic vision, and even pretended to shew the spot on which the angel sat, on an awful pile of rocks, that seemed most difficult of access, and which thenceforth obtained the honorable name of St. Michael's Chair. It was from the circumstance of this supposed angelic visit, that the ancient Cornish name of this Mount, which designated its situation, was abandoned, and that of St. Michael became substituted in its stead. Even the chair has been preserved in the memorials of tradition; and in the building erected on the summit of the hill, a projecting stone, which is no other than the carcase of a stone lantern, extends from the tower, over a horrid mass of rocks below, which is still viewed by credulity and ignorance as the actual chair in which the archangel sat. To this supposed chair the fool-hardy and presumptuous still occasionally repair, under a full persuasion, that if a married woman has sufficient resolution to place herself in it, by a magic virtue which it possesses, it will invest her with the regalia of ‘petticoat government,’ if a married man sits in it, he will receive ample powers for the management of his house.

The earliest transactions of a military nature that are recorded concerning this Mount, took place while Richard I. was engaged in the holy wars;—it was then seized by Henry de la Pomeroy, who fortified the place in behalf of Richard's brother John, who was then contending for the crown of England. But on the release of Richard, Pomeroy so dreaded his vengeance, that he caused himself to be bled to death; after which the Mount surrendered to the Archbishop of Canterbury.

From this time forward, this place continued rather a school of Mars, than a temple of peace; for shortly after the overthrow of the party of Henry VI. at Barnet Field, John Earl of Oxford, who was one of the principals, reached this place by sea, and with his followers, procured admission, disguised in the habits of pilgrims; and having gained an entrance, he threw off the vizor which he wore, mastered the garrison, seized the place, fully fortified himself, and secured by his valour what he had won by his policy, until some advantageous terms induced him to surrender. In one of these attacks Sir John Arundell was slain between Marazion and the Mount. In the reign of Henry VII. Lady Catherine Gordon, wife of Perkin Warbeck, took refuge here, until the disasters of her husband obliged her to submit to Lord d'Aubeney. During the Cornish rebellion in the reign of Edward VI. many families fled to the Mount, and there endeavoured to secure themselves from the vicissitudes which then distracted the country; but the Mount being besieged by the returning rebels, who took the plain at the bottom of the rock by assault at low water they proceeded towards the summit, rolling before them trusses

of hay, to deaden the shot that were poured from the fortifications; being reduced through want of provisions, they soon surrendered to the insurgents. During the civil war the Mount was secured and strongly fortified by the king's adherents; but they were reduced after an obstinate conflict, by the troops under Colonel Hammond. These commotions drove the peaceable inhabitants from its shores, so that for some time the Mount became nearly depopulated.

Sir John St. Aubyn, the father of the present Sir John, made many improvements on this rock, to whom the increase of buildings and inhabitants is to be attributed, who by rendering the pier sufficiently capacious to contain upwards of fifty small vessels, and to afford security to them and to the fishing-boats, has induced the inhabitants of Marazion to erect cellars near the spot. The present possessor has of late greatly enlarged the pier, which is of great importance to the shipping interest, and has increased its population and trade. This Mount is a fine protection for ships, during the prevalence of easterly winds, and it is not uncommon to see from fifty to a hundred sail riding under the lee of the Mount, or secured within the pier. The number of residences are about seventy, which forms a small town composed of three short streets, and the inhabitants about two hundred and fifty; although at the beginning of the last century, there was only one dwelling-house besides the fortress, in the place.

The ascent to the summit of the Mount at present is by a steep and rugged passage fronting the north, on ascending which, the visitor will perceive a small, but handsome column of granite, decorated with figures of saints, &c., in basso-relievo: about midway up the hill, (in war time) it is defended by a few cannon; near the summit is the principal battery, which protects the entrance of the bay. The apex of the rock is occupied by the remains of the ancient monastic buildings, which were considerably altered by the late proprietor, and have been much improved by the present possessor: over the entrance is the family arms beautifully executed in granite; the chapel is of the Gothic order, at the end of which are several curious specimens of scriptural pieces, in ancient sculpture on marble, the subjects are, the Nativity—Susanna and the Elders—Water changed into Wine—Abraham offering his son Isaac—our Saviour washing the feet of his disciples—the wise men presenting their gifts—the Purification in the Temple—Pontius Pilate, with several others: from the chapel, we may ascend by a narrow stone staircase to the top of the tower; the prospect hence is of the grandest description, and is perhaps as striking as any that can occur to mortal eye: ‘The immense extent of sea,’ says Dr Maton, ‘raises the most sublime emotions, the waves of the British, Irish, and Atlantic seas, all roll within the compass of the sight,’ whilst the eye is relieved from the uniform, though imposing grandeur of so boundless a horizon, by wandering over a landscape, which Claude himself might have transfused on his canvass.

In levelling a very high platform some years since, in order to erect the altar, a low Gothic doorway was discovered, closed up with stone in the southern wall, which had been concealed by the raised platform;—this doorway being opened, a passage was found to descend, containing ten steps, which led to a vault of stone under the chapel, about nine feet long, seven feet broad, and nearly as many high; in this vault was found the skeleton of a very large man, without any remains of a coffin. This discovery gave rise to various conjectures; but the more rational concluded, that these were the remains of some wretched man, who for

some crime had been condemned to die by hunger in this dungeon, and that he had literally undergone the penalty of his sentence. Great must have been that crime, or barbarous those days, that could have given to death so many horrors. The bones of the unhappy victim were taken up from their dark abode, in which they had been immured for unknown ages, and interred within the body of the church. At the same time, upon taking up the old pavement, the fragment of an inscribed sepulchral stone of some Prior was taken up; there was also a grave stone not inscribed, which antiquaries have supposed to have covered the remains of Sir John Arundell of Terrice, knight, slain on the strand below, in the wars of York and Lancaster.

In the tower of this chapel are six sweet toned bells, which frequently ring when Sir John St Aubyn is resident; at this time also choral service is performed, and on a calm day, the undulating sound of the bells, and the swelling notes of the organ, as heard on the water, produce an effect which it is impossible to describe.

A spacious apartment near the chapel, now called the Chevy Chace Room, (which has lately undergone a thorough repair,) was formerly the refectory of the monastery. This is curiously ornamented with a singular frieze, representing in stucco the various modes of hunting the wild bull, stag, ostrich, fox, and rabbit; the walls are ornamented with the arms of the different members of the St. Aubyn family; at the upper end of this room are the royal arms, with the date of 1644, and at the opposite end are the arms of the Godolphin family. The roof has lately been superbly decorated with a profusion of carving in English oak.

On leaving this room the visitor will perceive a beautiful window of stained glass, the objects are our Saviour crowned with thorns—Flowers—a Satyr, &c., interspersed with pieces of coloured glass of different sizes, with the greatest judgement.

Formerly water was scarce here; for whatever virtue might be attributed to the magic wand of *Cadoc* in the fifth century, it is certain that the inhabitants had no other water than that which the clouds supplied. But about sixty years since a well being cut through a very hard rock, a fine spring was found at the depth of about thirty-seven feet, in the immediate vicinity of a tin-lode. Tin-ore is said to be plentiful all over the Mount. Human bones have frequently been dug up in various places on this consecrated spot, wherever the soil was found deep enough for interment.

On the first of November, 1775, (being the day of the great earthquake at Lisbon) about two o'clock in the afternoon, a most extraordinary phenomenon was observed at St. Michael's Mount, during a dead calm. After the sea had ebbed about half an hour, it rose suddenly six feet in height, retired again in ten minutes, and this periodical flux and reflux continued every ten minutes for two hours and a half, which caused the vessels and boats, that lay at the pier-head, to whirl about in a strange manner.

The remains of several ancient fortifications are to be found on the road leading to the castle; and to the mineralogist, the antiquary, the historian, the poet, and the painter, St. Michael's Mount will ever be an object of particular interest, and real satisfaction.

In coming from the Mount to Marazion, we pass a large mass of Greywacke, known by the name of the Chapel Rock, on which tradition reports a chapel to have once stood, dedicated to the Virgin Mary; but no vestige of it has been

discernible within the memory of man: The rock on which this chapel must have stood, is about one hundred and fifty yards in circumference, but the level part of it on which alone the building could have been erected, is about forty-five feet long, and eighteen or twenty feet broad. Of the use to which the chapel was applied, the reports of tradition are not uniform. According to one account it was erected purposely for the inhabitants of the town of Marazion; but according to another, and more prevalent account, it was appropriated to the use of pilgrims, who came to visit the priory on the Mount, but who were compelled to pass through some initiatory rites in this chapel, before they ascended the sacred hill. This rock, though now about one hundred yards from the main land, is said to have been contiguous to it.

St. Michael's Mount is three miles from Penzance the last Town in England, and contains about seven acres of land.

#### MARAZION, OR MARKET-JEW

This corporate and market town is in the parish of St. Hilary, standing on the sea shore, on the eastern side of the Bay, and is well sheltered from cold winds by a considerable elevation of land to the north; still however, as it is exposed to the south-west, it is far less eligible as a place of residence for invalids, than Penzance. The town contains about twelve hundred inhabitants; its principal support, if not its origin, according to some authors, was derived from the resort of pilgrims, and other religious devotees, to the neighbouring sacred edifice on St. Michael's Mount; but its name indisputably, was derived from the JEWS, who traded here several centuries ago, and held an annual MARKET for selling various commodities, and purchasing tin and other merchandize in return.

By the charter of Queen Elizabeth, the government of this town is vested in a mayor, eight aldermen, and twelve capital burgesses, with a power to hold a weekly market, and two annual fairs. In the preamble to this charter it is stated, that 'Marghaisewe, was a trading borough town of great antiquity, and that it suffered considerable dilapidation in the days of Edward VI. when a number of rebellious people entered and took possession of the town, and laid many of the buildings in ruin.' From this disaster the town never fully recovered; and from the growing influence of Penzance, the suppression of the priory, and the loss of the pilgrims from whom it derived its principal importance, its dignity gradually declined, until Marazion became as it now appears.

It has been asserted on good authority, that under this charter of Elizabeth, this town formerly sent members to parliament; and Dr. Borlase in his MSS. mentions Thomas Westlake and Richard Mills, Esqrs. as two members who were actually returned for Marazion in the year 1658; but it does not appear that they ever took their seats. It is also probable from some original letters, which passed between the sheriff of Cornwall and the mayor of this borough, during the protectorate of Cromwell, that the inhabitants were solicitous to recover their long neglected rights, but their efforts proved ineffectual.

Hals and Tonkin, adverting to the fact of which Leland speaks, of Market-Jew being '*burnid a Gallis*', assert, 'that a party of French soldiers landed from a fleet then cruising in the channel, took the town, and actually set it on fire; but they found themselves opposed by Carminow, or Erisey, at

the head of a powerful party, who compelled them to retreat to their ships.'—But they do not mention the date when this calamity occurred.

The aforesaid charter of Elizabeth attributes the decay of this town to a subsequent but similar calamity.—And that at the time this charter was granted, in 1595, most of the public buildings and dwelling houses, were in a ruinous condition.

From Tonkin's MSS. it appears, that 'the inhabitants of Market-Jew have a tradition, that the greatest part of their houses (in which there is fine old carved work,) were built with oak-trees that grew between the Mount and Newlyn.'—He also says, 'that off the Long-rock, (between the Mount and Penzance) may be seen in a clear day, about twenty feet under water, a firm wall running out directly to the south, and that for a long way; this (they say) was the wall of the park there.'

The trade of this town at present consists chiefly in the pilchard fishery, and the importation of corn, flour, timber, coals, and iron, for the use of the inhabitants and the neighbouring mines. The parish church is about two miles distant from this place; but for the accommodation of the inhabitants, a chapel of ease has long been established in the town, in which divine service is regularly performed by a lecturer, whose salary is defrayed by private contributions. There are also three meeting-houses in this place, belonging to the Quakers, Methodists, and Baptists.

On the east of Marazion, many yards of the cliff have been washed away, within the last forty years, for nearly half a mile in length; the soil of the cliff being soft, and the spring tides pressing against it with considerable violence. About eighty or ninety years since, a spring tide was driven by a dreadful hurricane with such violence against the town, as to beat down a whole row of houses, and to carry them with their foundations into the sea.

A vast number of hazel-boughs, with perfect nuts adhering to them, have been found between the Mount and Penzance, below the natural bed of soil:—and about half-way between Marazion and Chydour, about three hundred yards below high-water mark, were seen a few years ago, by Mr. Giddy of Penzance, upon an extraordinary recession of the tide, several stumps of trees in their native soil, with their roots shooting out from them, and their stems apparently cut off. These trees had been felled, no doubt, under an apprehension of the coming encroachment; while the whole trees had been either surprised or neglected.

The level green over which the road from Marazion to Penzance passes, is evidently nothing more than the surface of a continued bar of sand, behind which, towards the land, lies a large tract of marshy ground, into which the tide, no doubt, formerly flowed. Some years since, Mr. R. Moyle, of Marazion, undertook to rescue a portion of this bog from its unprofitable condition; and by his spirited exertions, he so far succeeded, as to bring about seventy acres into useful land, from which both corn and potatoes have been produced in several crops. For this noble and successful effort, he received from the Society for the promotion of arts, manufactures, and commerce, a gold medal: and a handsome premium from the Board of Agriculture. This land is now getting fast into decay. On cutting open the drains through this unprofitable bog, the labourers discovered an earthen pot, in which they found nearly a thousand Roman copper coins, many of them were much corroded by the salt water, to which they had been exposed

for ages; but the impressions on several, were sufficiently legible to furnish evidence, that they were of the emperors who lived between the years 260 and 350.

Very great exertions have been carried on by Messrs. Bolitho, on the western part of this green, and the water being already drained, there is every reason to believe, they will be well rewarded for the trouble they have taken, as in the end they are likely to gain about a hundred acres of useful land.

To the right, as you pass over this green from Marazion to Penzance, on an elevated spot, appears LUDGVAN CHURCH, that forms so prominent a feature on the shores of this Bay, which will be visited with respect by the Antiquary, when he learns that it contains the mortal remains of Dr. Borlase, the venerable and learned author of the Natural History and Antiquities of Cornwall. From the Latin inscription on his tomb, it appears that he was fifty-two years rector of this parish, also forty years vicar of his native parish, St. Just; and that he died in the seventy-seventh year of his age, universally beloved and respected by all who knew him.

GULVAL CHURCH also forms a most interesting feature on the shores of the Bay, being situated at the bottom of a gently declining hill, and beautifully surrounded with trees. In it there is to be seen a monument to the memory of Arthur Harris, Esq. who was governor of the Mount in the reign of Queen Elizabeth which will be found an object of curiosity, as it marks the literary conceit and quaintness of those days. It is worthy of notice, that in this parish, (and in Madron,) two crops of potatoes are produced in the season, through the mildness of the climate. The early sort is planted for the first crop, which is got off time enough for the next to come to maturity before the winter.— They plant the kidney potatoe about Christmas, or a few weeks before it, which they draw in May, and plant in the same ground the apple potatoe.— A gentleman of the neighbourhood, had by this management, in the first crop, from one acre, one hundred Cornish bushels of twenty-four gallons each: and in the second crop, two hundred bushels, so that from one Cornish acre, which is one acre and one-fifth, statute measure, he produced nine hundred Winchester bushels of potatoes in one year. The cultivation of this valuable root upon the largest scale is strongly recommended, and the use of sea-weed as an excellent manure for them.

Dr. Borlase, speaks of some specimens of porphyry, having been found in this parish, particularly near a river called Pons-an-dane, from this he infers, that it is not improbable, there may be some veins or strata of this substance, sunk in the rocks under the surface of the sea, near this place especially as the waves frequently throw certain portions, on the beach of Mount's Bay, after a storm. None however has yet been discovered, in any of the rocks, or cliffs.

At Chyandour there is a smelting-house for tin, where also a very extensive trade is carried on by Messrs. Bolitho, to whom the neighbourhood is much indebted for the very great improvements they have made in the embellishment of the scenery

#### PENZANCE

This is a corporate and market town, and the most westerly one in the kingdom, being only ten miles from the Land's End.

The town is pleasantly situated on the north-west side of the Bay, and from the temperature of the atmosphere, the mildness of the seasons, the beauty of the prospect, and the exhilarating purity of the gentle breezes which play upon the bosom of the waters, and scatter health upon the shores, have conferred on Penzance and its vicinity, a degree of celebrity, which few persons who have visited this neighbourhood, will think them injudiciously bestowed. Perhaps without exception, this town can boast of a warmer climate than any other in England; this circumstance, added to the enlivening prospect, with which it is encircled, renders this spot singularly inviting to invalids. The rains indeed which frequently fall, may operate to its disadvantage, in the estimation of those who wish constantly to walk abroad; but these rains are rather inconvenient than pernicious, as perhaps neither Italy, nor the south of France can boast a more salubrious atmosphere.

To this place many valetudinarians annually resort, and the benefits they receive, leave them in general but little reason to regret their journeys. It is not without sufficient reason that Penzance has been denominated the Montpelier of England. Its ancient name was Buriton; its present appellation signifies in Cornish, 'the Holy Headland'. Although some think the name of Penzance, is derived from *Pen*, a head, and *zanz*, a bay, signifying the head of the Bay. The arms of the town most probably, (John the Baptist's Head,) are taken as a quaint device, to express the name of the town.

It is one of the stannary, or coining towns, and consists of six principal streets, intersecting each other, the principal ones having the road from Marazion to the Land's End, passing through them. There are also several rows of elegant houses, namely, the Parade, North Parade, Regent Terrace, Wellington Terrace, Cornwall Terrace, &c. and in the vicinity of the town are several pleasant walks, through shady dingles, and over swelling hills, which open to the view the numerous genteel residences that decorate the adjacent country.

The trade of Penzance, consists chiefly in timber, hemp, iron, coals, salt, flour, fruit, wine, spirits, hides, groceries, cloths, linens, and every other kind of merchandise imported; also in tin, copper, fish, oil, potatoes, &c. that are exported.

Penzance is one of those towns to which the tinners bring their tin to be 'coined', as it is called, that is, to be assayed and licenced by the officers of the Dutchy, who take off a piece from each block, and if they find it sufficiently pure, stamp it with the Duke's Arms. For every hundred weight of tin so stamped, he receives four shillings; the annual revenue is about £10,000

In the town and its vicinity there are extensive woollen manufactories, also a paper mill, and coarse earthenware potteries. The pilchard fishery is carried on in this town and neighbourhood to a great extent. Tin is also formed into bars for the Mediterranean trade, and ingots for the East Indies, at Penzance.

The great variety of shipping, ships of war, merchantmen, and fishing boats, constantly lying in Mount's Bay, form a very interesting and delightful scene.

This town originally rose from a few fishermen settling near the present quay, and building for themselves a chapel, dedicated to St. Anthony, that universal patron of fishermen. This chapel continued until within these few years, when it

was rebuilt into a fish cellar:—it was only small however, but it had a statue of its Saint in a niche.—Tradition has preserved the name of the Saint, and antiquarianism has saved the statue of him: it is merely a bust made of alabaster. Thus begun, the town extended up the side of the hill, from the site of the pier to the ground now occupied by the present chapel. When it had acquired some degree of importance, a fort was built by one of the family of Tyes, in whose manor of Alwarton, the town stands

It was one of this family who obtained a market for Mousehole, in the reign of Edward I. Hence in Henry's valor, the present chapel is thus described: 'Burriton alias Penzance, chapel to Madern'. This name tells to every antiquarian ear, Bury or Burg, Buryton or Burgton, in every part of the Kingdom attesting their own rise as towns, from castles as their parents. Mr. Whitaker supposes, the time of the first valor in 1294, although the chapel was in existence, it was not connected with the Town, because the church of Madern, is mentioned, but no notice is taken of any chapel belonging to it.

Another account respecting the ancient History of this Town, states, that its market to be held on Wednesday, was originally granted to Alice de Lisle, then Lady of the manor of Alwarton, in 1332, together with a fair of seven days, at the festival of St. Peter. This original market was confirmed in 1404, to Thomas, Lord Berkeley, with three fairs each to be held two days. At a still subsequent period two markets were introduced, to be held on Tuesday and Thursday; but these have since been changed to Thursday and Saturday, which still continue and the market for goodness, variety and cheapness of its commodities, is certainly not to be equalled by any other in Great Britain. To the great quantity of salt mixed with the food of the hog, is to be attributed the delicacy and richness of the pork, whilst owing to the rich pasture, the heifer beef is superior, beyond all comparison, to the Scotch; it is worthy also of notice, that during the winter, the market is filled with the greatest variety of wild fowl, woodcocks, snipes, &c. &c. which may be purchased for a few pence; although every description of fish in season, as red mullet, John dory, turbot, sole, mackerel, &c. is offered for sale every day by the Newlyn fish-women, whose delicate complexions, and the vivacity and brilliancy of whose jet black eyes, darting their rays from beneath the shade of large beaver hats, fascinate the traveller.

The present chapel, which is now ornamented with a small white-washed spire, is dedicated to St. Mary. This has been used as a chapel from time immemorial. It was enlarged in 1617, and consecrated in 1680. The font bears date 1608, the alms-box 1612, and a memorial in a pew is dated 1574. In 1680 it was endowed by John Tremenheere, Esq. with lands now let at £20. per annum; a cemetery was also enclosed and consecrated, and the limits of the town were defined to be the limits of the chapelry. The endowment has since been twice augmented by Queen Anne's bounty. Marriages were solemnized in this chapel prior to the marriage act; but since that has passed, Madern church claims this exclusive privilege. Penzance has its own vestry, and maintains its own poor. It appears from the registers of the see of Exeter, that there were chapels here dedicated to St. Raphael, and St. Gabriel. Penzance was first incorporated in 1614; which charter was confirmed by Charles II. This corporation consists of a mayor, recorder, eight aldermen, and twelve assistants.

Leland speaking of 'Pensants', describes it as 'the westes market towne in all Cornwayle', and as having 'a little

peere', which was even then visited by ships as well as boats.

Nothing can be more evident, than that the prophetic tales which imposition invents, which ignorance propagates, and which credulity believes, are sometimes productive of calamitous effects and consequences. From time immemorial a prediction had prevailed in the old Cornish language, that a period would arrive when 'some strangers should land on the rock of Merlin, who should burn Paul church, Penzance, and Newlyn'. Of the actual accomplishment of this prediction, Carew gives the following account:—'On the twenty-third of July, 1595, a small squadron of Spanish gallies presented themselves upon the coast in a menacing attitude, near Mousehole, where they landed about two hundred men, and began their devastations by setting fire to some scattering houses, the church of Paul, and then Mousehole itself. Finding little or no resistance, they proceeded to Newlyn, and from thence to Penzance. Sir Francis Godolphin endeavoured to inspire the inhabitants with courage to repel these assailants; but they were so intimidated with the ancient prophecy, that they fled in all directions; supposing that it was useless to contend with the destiny that had been predicted for ages. A few only stood by Sir Francis, and the number was so inconsiderable, that he was obliged to abandon the town to the enemy: the Spaniards availing themselves of this desertion, set it on fire in different places, as they had set Newlyn on fire before, and then returned on board their gallies, intending to renew the flames on the ensuing day:—but the Cornish having recovered from their panic, and assembled in great numbers on the beach, so annoyed the Spaniards with their bullets and arrows, that they drew their gallies farther off, and availing themselves of a favourable breeze, put to sea and escaped.' It is worthy of remark, that when the Spaniards first got on shore they actually landed on a rock called Merlin.—'These,' says Camden, 'were the only Spaniards that ever landed in England as enemies.' This invasion is the only memorable event that occurs in the history of Penzance.

The pier was erected at the expense of the corporation, unassisted by any parliamentary grant, about fifty-four years ago. Within the last fourteen years it has received considerable improvements; whether from jealousy of what might be the effect on the trade in Mount's Bay, in consequence of the new harbour building at Porthleven, or from a conviction of the absolute necessity for extending protection to vessels taking shelter therein, is not generally known: but whatever may be the motive, they both afford to the coasting trade several important advantages. The pier has been lengthened one hundred and fifty feet, on which a light is erected, and used at night from half flood to half ebb, and the dangerous rocks in the entrance removed. The expenses incurred by these improvements are paid by a new tariff established by an act passed in the year 1817. This pier is now nearly seven hundred feet long, being the longest in Cornwall.

About a mile from this pier lies a dangerous rock called the GEAR, which is not visible after half flood tide:—upon this rock has lately been erected a pole, which is a good mark by day, for vessels entering the harbour.

A packet sails from here to the Scilly Islands, a distance of about fourteen leagues, every Friday, and returns on Tuesday, which, with a fair wind, is generally accomplished in six hours; but with contrary winds, it has sometimes exceeded two days.

The shores of Penzance presented, some few years since, an object of bold adventure to the undertakers, and of dreadful curiosity to the numerous visitors who ventured to inspect it, in the WHERRY MINE.—Its situation was within the reach of the tide; and the ground though uncovered at low Water, was inundated with several feet twice in twenty-four hours. ‘Imagine,’ says Dr. Maton, ‘the descent into the mine through the sea; the miners working at the depth of seventeen fathoms below the waves; the rod of the steam engine extending from the shore to the shaft, a distance of nearly one hundred and twenty fathoms; and a great number of men momentarily menaced with an inundation of the sea, which continually drains through the roof of the mine, and roars loud enough to be distinctly heard in it.’ The adventurers in this mine were induced to sink a shaft in this place, through the representations of an old miner, who predicted the acquisition of much riches, which were actually found. It consisted in valuable tin stuff, and cobalt. But after some time, the dangerous situation of the shaft, the injuries occasioned by storms and high tides, and the declining state of the lode induced the adventurers to abandon the workings altogether, in 1798.

Not long before this mine was abandoned, the following instance of danger occurred to the before mentioned old miner. At a time when the tide was rolling its swelling waves into the bay, and many of the breakers were dashing over the mouth of the shaft, the old man was busily employed in filling a kibbal with a mass of valuable ore below; and although the other workmen had left the mine, he persisted in sending up this precious cargo before he deserted his station. The mass being larger than usual, unfortunately became entangled in the mouth of the shaft, in which it remained for some time, and actually blocked up the passage, while the tide continued to rise higher and higher every moment, and each wave deposited some water in the mine. To escape seemed utterly impossible; the poor man’s retreat was cut off, and every moment appeared big with instant death. On finding, after some ineffectual attempts to raise the mass, that it was immovably fixed, another miner descended from the summit, suspended by a rope, and broke off some of the obstructing parts; after which the remainder was secured. Another kibbal was then let down into the awful abyss, which rescued him from the horrors of his situation.

Camden, speaking of the depth of water in Mount’s Bay in his days, observes—‘a haven pretty broad opens a little above the Mount, which is denominated Mount’s Bay, from the Mount; where is a safe station for ships when the south and southeast winds blow with fury, a station six or seven fathoms deep in the middle of the ebb tide.’ At Penzance pier there are now twenty feet of water at spring tides, and fourteen at neap. It will contain more than one hundred sail of vessels in perfect safety and has a dry dock within it fit for a ship of five hundred tons. But about the middle of the Bay’s mouth, there are twenty fathoms at low water; fourteen higher up the Bay; and fifteen, or sixteen, still nearer the Mount. So much deeper is the water here at present, than it was in the days of Camden, or so inaccurate was Camden’s information about it. The pier of Penzance, during the war, was protected by a small fort, the Burryton of modern days.—But the town is too deeply embayed to tempt even a privateer to risk paying it a visit, lest the wind shifting, should prevent her retreat.

But deeply embayed as Penzance is, instances have occurred, when the wind and waves, acting in conjunction,

overcame every obstacle, and bade defiance to resistance. An awful instance of this fact occurred on the night of Sunday, January 19th, 1817. The storm, during the night, increasing to a hurricane, drove the waves with such violence, as to break over the pier, above the mast heads of the vessels within, and to bear down every thing before their united fury. One vessel was sunk in the pier, another sunk and went to pieces, a third filled with water, and a fourth drove from her moorings and went on shore. Two of the four pillars on which it was intended to erect a light, were washed down, and several of the foundation stones of the pier were removed. It being a spring tide, the water rose to an unusual height; the green between Penzance and Newlyn was torn up, and the soil in several places washed away. The dry dock at Penzance was much injured: and, with timber carried off by the waves, the damage sustained by Mr. Matthews, the proprietor, exceeded £500.—On the eastern side of the town, the space between Penzance and Marazion presented a scene of devastation; in some places the turnpike road was buried with sand, and in others it was broken up by the violence of the waves; the water making a breach over it, and being in different places from three to five feet deep. At Chyandour, the lower parts of the houses were inundated; part of the bridge was washed away; and in the cellar of an innkeeper there, a number of casks of beer floated, and some of them were dashed to pieces by being driven against each other. At Newlyn and Mouse-hole on the west, and at Marazion on the east, the effects were dreadfully felt: at this latter place, and at the Mount, much damage was done: some premises were severely injured; the road between Marazion and the Mount was torn from its foundations; and stones, upwards of a ton weight, though cramped together with massy iron, were severed and removed from their positions. From Plymouth to the Land’s End, scarcely a port or cove escaped the devastations of this tempest; and in many places its effects will be transmitted to future generations.

A Geological Society was instituted here in February, 1814, on the suggestion of John Ayrton Paris Esq. M.D. late of this town, Lord de Dunstanville and the Earl of Yarmouth, are the vice-patrons; and Davies Gilbert, Esq. M. P. for Bodmin, is president. The King having kindly taken the society under his protection, as its patron, it is now denominated the ROYAL GEOLOGICAL SOCIETY OF CORNWALL; and reckons amongst its officers and members, many individuals of the first rank and science in the kingdom. The cabinet of minerals possesses the most complete series of specimens to be found in the county, and will be viewed by the mineralogist with sensations of respect and esteem. The *alloyed tamping bar, shifting cartridge*, and *copper needle*, were introduced into the mines of Cornwall by this society; their objects being to prevent those accidents which so frequently happen to miners, in blasting rocks with gunpowder; and has answered the purpose beyond the most sanguine expectations, as the safety instruments cannot strike fire: this alone has been the means of saving hundreds of miners from an untimely grave, or accidents worse than death. The county of Cornwall being particularly favourable to the objects of this institution, the society promises fair to advance science, and produce much practical benefit.

The Penwith Agricultural Society, holds its meetings, and distributes its rewards in this town.

In 1770, the Ladies' Book Club was formed at Penzance: this was soon followed by the Gentlemen's, and that by many others, tending to amusement and instruction.

Near the South Parade, are the Public News Rooms, and Library, in a neat newly built edifice, at which the most approved London and Provincial Papers daily arrive: the Library was instituted in 1818, Sir Rose Price, Bart. is President, and it consists of upwards of one hundred members, ladies and gentlemen of the town and neighbourhood.

In 1809, a Public Dispensary was instituted by the inhabitants at a general meeting, and a house taken for that purpose; the object of this humane institution is to afford advice and medicine to the industrious but afflicted poor: a physician and surgeons attend here every Tuesday and Friday, at twelve o'clock, and an apothecary at the same time, every day, with the exception of Sundays. By this society a reward of a guinea is given to any individual or boat's crew, who can speedily rescue from the water, the body of a person recently fallen into it; and a further reward of two guineas more, if happily the apparently drowned person can be restored to life, This institution is supported by voluntary contributions.

There is also in this town, a Humane Society; a School of Industry for poor female children; with several other charitable institutions: also, branches of the Methodist, Baptist and London Missionary Societies; with a branch of the Cornwall Auxiliary Bible Society, Ladies' Bible Society, &c.

Penzance has a Grammar School, supported by the town and corporation: and one of Mr Buller's schools, endowed from the long annuities, was in this town.

Hot and cold sea-water bathing may now be enjoyed in perfection at Penzance, where Baths have been erected: and we trust the time is not far distant, when this place will become a favourite resort of Hygeia, and will supersede those numerous *watering* places, which derive their fame alone from the caprice of fashion, or popular prejudice, and which have nothing to recommend them, but the eulogiums of a herd of visitants, who cannot possibly appreciate their peculiar claims to merit. In enumerating the very many advantages this situation holds out to invalids, we must not forget to mention the numerous chalybeate springs, which rise in this neighbourhood: one of these is situated at Castle Horneck, and from the analysis of it by a medical gentleman, it appears likely to become a medicinal agent of considerable energy.

Besides the established church, Penzance has a great variety of places for religious worship. In the year 1790, a Wesleyan Methodist Chapel was erected, in which Divine service was performed until the year 1814, when a new one was built, which was enlarged and embellished with a fine organ in 1826; this is now the most elegant and capacious meeting-house the county of Cornwall can afford. In 1807, a new Independent chapel was built, in which Divine service is still carried on. The Baptist chapel was built in 1789, enlarged in 1818, and was re-enlarged in 1822, at a very considerable expense. The Friends commonly called the Quakers, had a chapel erected in this town as early as 1650; their present chapel was built in 1777, in which Divine service is performed. The Jews have a synagogue, which was built in 1807; but, prior to this, they had one that was erected in 1768. The Roman Catholics in this place not being very numerous, they have no place of worship.

Among the many improvements which have recently taken place, in this town, it may not be amiss to enumerate the following:—the Gas-works situate in East Street, which were undertaken by a spirited company in 1830. Penzance, had previously been stigmatized, as being one of the last towns to embrace so modern and elegant a light; but it now has to boast of a brilliancy, equal, if not superior, to any town in the county, and it may almost vie with any in the West of England. Improvement has made a rapid stride in all parts of the town, particularly in and about the Green-Market; the aqueduct which supplies the town with water, and empties itself through a neat granite fountain, on this spot, has conferred incalculable benefit on the inhabitants at large, there being a reservoir at the head, in case of fire or drought. In Alverton Street also, there has been a new street opened to Chapel St. Clare, and the Bullock Market, conferring great advantage to Farmers and others, coming from the country west of Penzance, especially with cattle on a market-day. In this street, which is denominated Clarence Street, there is a spacious Hotel erected, which has been ably conducted for the last four years by Mr Henwood, and, from the great influx of strangers, he has found it necessary to make an addition to his house, which has been done, embracing Hot and Cold Baths, Suits of Rooms for Families, Coffee, Commercial, Billiard Rooms, &c., and has made it replete with comforts, for the Traveller or Invalid; the whole now presents an elegant frontage of about one hundred and twenty feet.

In 1779, was born at Penzance, Sir Humphry Davy, L.L.D. F.R.S. &c. a character that would reflect honor on any age or country. He was descended from an ancient and respectable family.— The early part of his education was received under Dr. Cardew of Truro, which he left in a few years to acquire the profession of a surgeon, and apothecary with Mr. Tonkin, a medical gentleman at Penzance. Here his genius for chemistry first displayed itself, in varying the experiments of the most celebrated pneumatic chemists; and adapting them to vegetables, exclusively produced on the sea shore. These were communicated to Dr. Beddoes, who, sensible of Mr. Davy's merit, engaged his assistance at a medical establishment, then first beginning at Bristol. Mr. Davy, introduced himself to the public by a treatise 'On the nature and relation of Light and Heat'. The credit justly acquired by this work, and by subsequent essays, added to his successful delivery of a course of Lectures at Clifton, procured for him the notice of the Royal Institution in London. In 1803, he was elected F.R.S., and, (on the proposition of the celebrated General Vallancey,) an honorary member of the Dublin Society. After giving a course of Lectures on the chemistry of agriculture, he was appointed Chemical Professor to the Board of Agriculture. In 1805, he was appointed Director to the Laboratory of the Royal Institution. His next Lectures were on Geology, after which he visited Wales and Ireland. On the death of Dr. Gray, (in 1807,) he was chosen Secretary to the Royal Society. It was about this time that he made those discoveries which will justly place his name, among the greatest his country can boast of in science: In the Bakerian Lecture, he attributes all that has been done in electro-chemical science, to the accidental discovery by Nicholson and Carlisle, of the decomposition of water, by the pile of Volta in 1800, which was followed immediately by that, of the decomposition of certain metallic solutions, and by the observation of the separation of alkali, on the negative plates of the apparatus. This doubtless was the origin, but the extension of the discovery rests with Davy. Nicholson and Carlisle, made their observations in the end of April,

and Davy had entered into his experiments by July, 1800. In the September of that year, he published his first paper on Galvanic Electricity. The prize awarded Davy, by the National Institute of France, for his paper on chemical affinities, was 3000 francs. In the second Bakerian Lecture, which was read in November, 1807, Davy announced the discovery of the metallic bases, of the fixed alkalies. By means of the highest power of the Voltaic pile, he decomposed pot-ash, and obtained its base in a metallic form, which he called *potassium*. The discovery of *sodium* followed. Severe illness succeeded his discovery of potassium, and interrupted his studies. This illness excited great alarm; but a strong constitution, the best medical advice, and the great attention of his friends, restored him to health. In 1810, the Dublin Society engaged Davy, to repeat his electro-chemical lectures; and the Farming Society of Ireland, requested him to repeat six lectures, on the application of chemistry to agriculture: for the former he received 500 guineas. In 1811, he again visited the Irish metropolis, and superintended the construction of a large Voltaic battery, for the illustration of lectures, on the elements of chemical philosophy; for these and a course on geology, he received £750. On this occasion, the Provost and Fellows of Trinity College, conferred on him the honorary degree of L.L.D., as a testimonial of their admiration of his eminent scientific attainments. In the following year, (1812,) the honour of knighthood was conferred upon him; and three days after he was married. In this year he published his 'Elements of Chemical Philosophy', immediately following this publication, were his discoveries of chloride of nitrogen, and hydro-phosphoric gas. Subsequent to these were his experiments on fluor spar. The next important event in Davy's life, was his visit to France. After the Emperor of the French, had sternly refused a passport, to several of the most illustrious noblemen of England, it was scarcely to be expected that Sir Humphry Davy, would have been allowed to travel through France, in order to visit the extinct volcanoes of Auvergne, and afterwards to examine that, which was in a state of activity at Naples: no sooner had his discoveries been represented by the Imperial Institute to Napoleon, than with his well-known patronage of science, he immediately and unconditionally extended the required indulgence. Accompanied by Lady Davy, and Mr. Farraday, (as secretary and chemical assistant,) he went to France in a cartel, in October, 1813. It was in Paris he discovered the true nature of iodine. From France, he went to Italy: at Florence, he worked in the laboratory of the Academia del Cimento, on iodine; but more particularly on the combustion of the diamond. He specially visited Mount Vesuvius, and Pompeii, and on his return paid his respects to Volta, at Pavia. He went from thence to Switzerland, and returning through Florence, wintered at Rome, in 1814-15: on returning to England, his attention was directed to the fire-damp in the collieries: we need not run over the details of his discovery of the safety-lamp; the result has preserved much human life. It is greatly to his honour, that instead of securing for himself the advantages of his discovery by patent, (which would have given him wealth in an almost measureless extent,) he threw his discovery open to the world. The nature of his invention, directed his attention to flame, and his 'Researches', on that subject are highly important. No parliamentary reward followed the invention of his safety-lamp, but he was created a Baronet, in 1818, two years afterwards. He was next employed by government, to provide a chemical method for unrolling the ancient papyri: his experiments were proceeded in at Naples, but

failed. In 1820, on the death of Sir Joseph Banks, he was elected President of the Royal Society. His latest investigation of importance was, the protection of ship's copper-sheathing, on Voltaic principles. While making the experiments, he took tour to Denmark, Norway, and Sweden. It is well known that the plan he suggested, failed.—Dr. Riviere, of America, has since taken out a patent, for an adaptation of Davy's plan. His health now declined, he went abroad, resigned the presidency, returned to England, wrote his 'Salmonia', communicated his last paper to the Royal Society, 'On the Phenomena of Volcanoes', and took another and final journey to Rome. He employed his latest hours, in the composition of 'Consolations of Travel', an extraordinary production under all the circumstances. At Rome, he had an attack of paralysis, (he had another similar seizure before,) whereon his wife and brother, (Dr. Davy,) hastened to his aid. From Rome he proceeded to Genoa, where he died on the day of his arrival, the 28th of May, 1829, in his 51st year. The citizens of Geneva, paid all becoming respect to the philosopher, honouring his remains with a public funeral, but the Dean and Chapter of Westminster, charged his widow £142, for permission to erect a tablet to his memory!

By his vigorous intellect, and scientific talents, Sir Humphry has not only exalted himself in the scale of public reputation as a chemist, but he has shone also as a poet: his interesting poem called 'Mount's Bay', possesses considerable merit.

It should also be remembered that Penzance was the early residence, of Admiral Lord Exmouth.

In taking up the Stone floor of an old house near the quay, in October, 1813, the workmen discovered a human skeleton, which, apparently, had lain there a considerable time. The premises were anciently occupied as a public-house, and some aged people recollect the circumstance of a sailor, who was in the habit of frequenting it, and who had in his possession plenty of money, being suddenly missed, conjectures ran that he was murdered; but no proof being produced to that effect, the subject and enquiry dropped. This discovery of the skeleton now puts the melancholy reflection beyond a doubt, and the perpetrators of the horrid deed have long since answered for their cruelty before the Supreme Judge of all human actions, whether open or concealed. It is remarkable, that this dwelling had been long unoccupied, from a report of its being haunted.

In July, 1757, a monk or angel-fish was taken at Penzance, in a trammel-net, whose nature appeared to be between the dog-fish and the ray.—The belly was white, and the back of a dusky or brownish hue.

In no part of Cornwall, is Midsummer celebrated with more hilarity than at Penzance and its neighbourhood; for on the 23rd of June, the young people are all alert in the preparations for their favourite festival. No sooner does the tardy sun withdraw himself from the horizon, than the boys begin to assemble in several parts of the town, drawing after them trees, branches of wood and furze; all which had been accumulating week after week, from the beginning of May. Tar-barrels are presently erected on tall poles, in the market-place, on the quay, and in all of the principal streets; while pretty female children trip up and down in their best frocks, decorated with garlands, and hailing Midsummer-eve as the vigil of St John. The joyful moment arrives! the torches make their appearance! the heaped-up wood is on fire! the tar-barrels send up their intense flame! the ladies, and

gentlemen parade the streets, walk in the fields or on the terraces which command the bay; from thence they behold the fishing towns, farms, and villas, vieing with each other in the number and splendour of their bonfires: the torches quickly moving along the shore, are reflected from the water; and the spectacle though of the cheerful kind, participates of the grand. In the mean time, rockets (of all descriptions,) crackers, squibs, &c., &c., resound through every street; and the screams of the ladies, on their return from the show, and their precipitate flight into the first shop, passage or house, that happens to be open, heighten the colouring and diversion of the night. Then comes the finale: no sooner are the torches burnt out, than the inhabitants of the quay quarter, (a great multitude,) male and female, young, middle-aged, and old, virtuous and vicious, sober and drunk, take hands, and forming a long line, run violently through every street, lane, and alley, crying ‘an eye, an eye, an eye!’ at last they stop suddenly and an eye to this enormous needle being opened, by the last two in the string, (whose clasped hands are elevated and arched) the thread of populace run under and through; and continue to repeat the same, till weariness dissolves the union, and sends them home to bed, which is never till past the hour of midnight. Next day, (Midsummer day) the custom is, for the country people to come to Penzance in their best clothes, about four or five o’clock in the afternoon, when they repair to the quay, and take a short trip on the water on which occasion a number of boats are employed, most of which have music on board: after one cargo is dismissed another is taken in, and till nine or ten o’clock at night, the bay exhibits a pleasant scene of sloops, sailing-boats, rowing-boats, sea-sickness, laughter, quarrelling, drum-beating, horn-blowing, &c., &c. On the quay there is a kind of wake or fair, in which fruit and confectionary are sold, and the public-houses are thronged with drinkers and dancers. Such is Midsummer in this part of Cornwall; and on the eve of the feast of St. Peter, which follows so closely upon it, the same things are acted over again.

The town of Penzance is well defended from the fury of Atlantic storms; it is large and populous; containing about 7000 inhabitants, is two hundred and eighty-three miles from London, and one hundred and nine from Exeter.

### MADRON

This parish is much celebrated in the records of antiquity, for the supposed miraculous virtues of its well; and is of considerable importance, as it includes the large, populous, and flourishing town of Penzance, of which an account has been already given. It is situated in the deanery, and west division of the hundred of Penwith. Its church is about a mile and half from Penzance.

The name of this parish is said to be purely Cornish, and is understood to imply *the good and fruitful hill*. But besides this circumstance, Madron is not without its patron saint, although opinion is not uniform respecting the sex and character of the person, to whom the church is dedicated, and to whom the parish seems indebted for its name. William of Worcester, says, that ‘St. Mather the Virgin, or St. Maddern, was patron of this church; that she was buried at Minster, and that many miracles were performed at her grave’.

The name of this Saint, is mentioned in the registers of the see of Exeter. Mr. Whitaker, on the contrary, introduces to our notice Motranus, as the patron of this church and

considers him as one of the large company, that came from Ireland with Breaca, and who was slain near the mouth of the Hayle. ‘In reverence to their remains as martyrs’ he observes, ‘the body of St. Motran, seems to have been begged by a parish a little distant to the south-west, to have been buried in its church, and therefore to have lent its name now varied a little into *Ecclesia Sancta Maderni*, in the first valor, but into Madern, alias St. Madern, in the second’. These historical incidents singularly coincide with the import of its Cornish name.

The manor of Alwarton, though now somewhat differently designated, is said to have taken its name from Aluardus, by whom it was possessed in the reign of Edward the Confessor. Not long after the conquest, it was the possession of the Pomeroy's. In the reign of Edward IV., having been the property of Edmund Beaufort, it was granted, with some other property to Richard duke of Gloucester. Of late years it has been divided into severalties; and the barton is now occupied as a farm-house.

The barton of Treneere, was alienated by the family of Oliver, in the year 1768, to which family it had belonged a considerable time prior to that period. On this sale, the estate became divided, and the old mansion was converted into a barn and outhouses. One third part of the estate being possessed by Mr. Robyns, he erected on it a commodious house for his own residence; but this property was afterwards bought by the Rev. Anthony Williams, and is at present the seat of H.P. Tremenehe Esq.

Lanyon, on which is a large cromlech, (which fell in on the night of October 19th 1815, a most stormy night, when the Delhi East-Indiaman was wrecked in Mount’s Bay,) was for some time the seat of the Lanyon family. It is now the property of William Rashleigh Esq., of Menabilly.

Landithy, which prior to the Reformation, belonged to the knights-hospitallers, was after this event for several generations in the family of Fleming. It is now a farm-house, the fee of which belongs to William Praed, Esq.

Trengwainton, which was formerly a seat of the Arundells of Menadarva, is now the seat of Sir Rose Price, Bart., who has made great additions to the residence, and embellishments to the grounds. In 1830, an elegant lodge and entrance was built, by the present proprietor.

Castle Horneck, which signifies the *iron castle*, is situated according to Norden, on the site of ‘an ancient ruined castle’. It stands on a mount near Penzance, and appears to have been in former times a place of some importance. An ancient castle said to have been built by the family of Tyes, is supposed to have stood near Penzance; but whether by this, Castle Horneck be intended, seems rather uncertain, as the castle ascribed to the Tyes, is stated to have stood on the north of the town, where some earth-works are still visible. This place is called *Lescudzhek*, or *Lescudjack*. Castle Horneck, was for several generations a seat of the family of Levelis; but it has been for about a century in the Borlase family, and is now the property of Samuel Borlase Esq.

Trereife, has been the family estate of the Nicholls's from time immemorial. Dr. Nicholls, physician to George II. who opened the body of the king, for the purpose of ascertaining the cause of his death, which he described in a letter addressed to the Royal Society; was second son of John Nicholls Esq. This family intermarried with the families of Godolphin and Foote. William John Godolphin Nicholls Esq., the last survivor of the elder branch of the family, died

May 9th 1815, and bequeathed all his estates to his mother, who married the Rev. Charles Valentine Le Grice, the present possessor. The tithe sheaf of the parishes of Madron and Morvah, has been in the uninterrupted possession of the Nicholls family, from the period of the Reformation.

The church contains memorials for the families of Price, Pascoe, Le Grice, Nicholls, Fleming, and Harris; and has a neat altar-piece, which was erected in 1810. An ancient chapel formerly stood at Lanyon, which was dedicated to St. Bridget, another stood in some other part of the parish under the same patronage, but the history of both appears to be lost.

Through the benevolence of Mr. Daniel George, a school was founded about the year 1704, for the instruction of poor children belonging to this parish and its chapelries, in reading, writing, and arithmetic. And that it might not fail for want of support, he endowed it with a house and garden for the master which with certain lands and premises, now let at £122 per annum,

Beneath the cromleh at Lanyon', says Dr. Borlase, 'I caused to be sunk a pit four feet and half deep, and found it all black earth that had been moved, and should have sunk still deeper, but that a gentleman in whose ground it is, told me that a few years before, the whole cavity had been opened on account of some dream, to the full depth of six feet, and then the fast or unbroken ground appeared and they dug no deeper: the cavity was in the shape of a grave, and had been rifled more than once, but nothing more than ordinary was found. By the black earth thrown up in digging here, nothing is to be absolutely concluded, there having happened so many disturbances. By the pit being in the shape of a grave, and six feet deep, it is not improbable that a human body was interred here; and by the length of the bank, and the many disorderly stones at the south end, this would seem to have been a burial-place for more than one person.

'If I must fall in the field, rear high my grave Vinvela. Grey stones and heaped-up earth, shall mark me to future times—when the hunter shall sit by my mound, and produce his food at noon; a warrior rests here he will say; and my fame will live in his praise' .—*Ossian*.

Not far from the aforesaid cromleh, there is a singular monument which leaves no kind of doubt, as to its being a work of art. This monument consists of three stones erect, one of which varies from the other two, in height, magnitude, form and appearance. This singular stone, which chiefly merits notice is comparatively thin and flat, it is fixed in the ground on its edge, and has a large round hole passing through its middle, of fourteen inches diameter, from which circumstance it has obtained the name *Mên-an-Tol*, which in Cornish signifies the *holed stone*; *Mên-an-Tol* being little more than *Tolmen*, reversed. The other two stones belonging to this monument are nothing more than rude pillars about four feet high, placed nearly at an equal distance from this holed stone, which seems to form the obtuse angle of this monument.

Dr. Borlase says, that 'in 1794, a very intelligent farmer of this neighbourhood, assured me that he had known many persons who had crept through this holed stone, for pains in the back and limbs and that fanciful parents at certain seasons of the year, do customarily draw their children through, in order to cure them of the rickets. He shewed me also two brass pins, carefully laid across each other on the top edge of this holed stone. This is the way of the over

curious, even at this time; and by resuming to these pins and observing their direction to be the same, or different from what they left them in, or by being lost or gone, they are informed of some material incident of love, or fortune, which they could not know soon enough in a natural way, and immediately take such resolutions as their informations from these prophetic stones suggest'.

Another stone of great antiquity, lies on its side in a furze-croft, about half-a-mile north-west of Lanyon. This stone was formerly erect, and was known in the Cornish language, by the general name of *Mên-Skryfa*, which signifies the inscribed or written stone. The dimensions of this stone, are nine feet ten inches long, one foot eight inches wide, and one foot seven inches deep. The words on this stone are evidently contracted; but the marks of contractions are preserved with considerable care. When these contractions are supplied the inscription itself would run as follows

RIALOBRANUS CUNOVALI FILIUS;

And the import is, that Rialobran, the son of Cunoval, was interred beneath the spot on which it stood.

At Hea-moor in this parish about one mile from Penzance, is a rock called by the country-people Mr. Wesley's rock; on this rock Mr. Wesley used to preach when he first visited Cornwall.—Mr. Pengelly of Treneere, has caused to be inserted in it a small marble slab with this inscription; 'On this rock Mr. Wesley and others, preached the gospel of Christ, A. D. 1743, to 1760. Luke 14 chap. 23 verse. W. Pengelly, 1825'.

In the year 1807, four birds of the species called the Bee-eater, were discovered in this parish. Two of them were shot but the other two escaped. This description of birds is rarely seen in England.

Dr. Borlase, says that 'some gentlemen hunting in the neighbourhood of Penzance, in the summer time of 1755, flushed a woodcock. Surprised at seeing a winter bird at that season of the year, they hastened to the bush, and there found a nest with two eggs in it. One gentleman more curious than the rest, carried the eggs home; but one being broken by accident, he discovered in it the body of a young woodcock. This encouraged him to try if possible to bring the other to perfection. He accordingly put it under a pigeon, and in a few days a living bird was discovered'.

To Madron Well many extraordinary properties have been ascribed. To this miraculous fountain, the uneasy, the impatient, the fearful, the jealous, and the superstitious resort, to learn their future destiny from the unconscious waters. By dropping pins or pebbles, into this fountain, by shaking the ground around the spring, or by contriving to raise bubbles from the bottom, on certain lucky days, and when the moon is in a particular stage of increase or decrease, the secrets of the well are presumed to be extorted. But the anxious are not always satisfied with the omens they procure. Defeated in one attempt, they come again; and frequently confirm by their renewed applications, the painful uneasiness, from which they thus foolishly endeavour to procure a deliverance. This well had a chapel erected over it, which was destroyed in the days of Cromwell, by the pious fanaticism of Major Ceely, who then resided at St. Ives.

In this parish there is a stratum of clay, which serves to make bricks for smelting-houses, being capable of enduring the most intense heat of the furnace.

Larigan commands the whole of Mounts Bay, was the seat of the late Thomas Pascoe, Esq.

Nancealverne, the seat of John Scobell, Esq.

Poltair, was the seat of the late E. Scobell Esq.

Rosecadghill, was the seat of the late John Tremenheere, Esq.

Rosehill, from its gardens, plantations, and romantic scenery, makes the situation delightfully pleasing, was formerly the seat of R. Oxnam Esq., but is at present occupied by the Rev. U. Tonkin.

Madron contains 5450 acres, and about 2000 inhabitants, exclusive of Penzance.

#### PAUL

THIS parish according to Mr. Whitaker, has derived its name from ‘a religious clergyman called Paul, or Paulinus, who lived as a hermit in the ixth century, upon the isle of Osa, which is separated from the continent of Armorica called Cornu-Galliæ, by a sea of sixteen paces’. It does not appear that this saint, or religious clergyman, was ever in Cornwall, but on the continent he was of great celebrity.

The situation of this parish is in the deanery and west division of the hundred of Penwith. It stretches on the western side of Mount’s Bay, and includes the populous villages of Mousehole, and Newlyn. The church and tower which stand on elevated ground, are conspicuous at a considerable distance, distant about three miles from Penzance by the public road. Their bearing is south south-west. The whole population of the parish, is about 4000 souls, of these about 2000 are in Newlyn, and about 900 in Mousehole. The remainder are scattered in villages and hamlets.

Mousehole, without doubt is a place of great antiquity, and in former ages was a place of much importance. So early as 1292, a market was procured for it by Henry de Tyes; which was then held on Tuesdays, and to this was added a fair for three days, on the festival of St. Barnabas. In 1313, the market with a fair for seven days was confirmed to Alice de Lisle; the latter to be held on the festival of St.

Bartholomew. Both the market and fair remained until the year 1595, when Mousehole and Newlyn were burnt by the Spaniards, from which time they have been discontinued.

About the year 1392, a quay was constructed at this place, which was then a port of considerable trade. A chapel dedicated to the Virgin Mary, stood on the margin of the sea, about the same time; but was demolished by the waves not many years afterwards; at which time the quay was much injured. In 1435, we have an indulgence of 40 days, to all who should charitably contribute, or lend a helping hand towards maintaining and repairing the quay at Mousehole. There is also another, ‘to all who should contribute towards the repairing and maintaining a certain key, or jutty at Newlyn, in the parish of Paul, betwixt Mousehole and Penzance’. Leland says, ‘that a little beyond Mousehole is an islet, and a chapel of St. Clements in it’.

Of the invasion and depredations committed by the Spaniards, a general account has been given under the head of Penzance; as that town suffered also from their devastations. So far as that disaster applied to the church of Paul and its adjacent buildings, the following particulars are

entered on the parish registers. ‘Register of St. Pawle, in the countie of Cornwall, from the 23 daye of Julie, in the yeare of our gracious Lord God 1595, on which daie soon after the sun was risen, the church, tower, bells, and all other things pertaining to the same, together with the houses and goods, was burned and spoiled by the Spaniards in the saide parish, being Wensdaie, the daie aforesaide in the 37th yeare of the raigne of our soveraine ladie Elizabeth, by the grace of God, of France, and Ireland, Queen, defender of the faith, &c. Per me Johnem Trenmearne, Vicarium’.

But although the whole church is said in the preceding entry to have been consumed, a curious fact lately occurred; in the year 1807, the roof of the southern porch was repaired. On removing the slates, &c., a wooden supporter of the roof exhibited marks of fire, which had partially injured it. The carpenter aware of the curiosity, preserved the wood thus burnt, which is distributed in pieces among the neighbouring gentlemen. We cannot but remark how well this circumstance confirms a tradition still current in the west—viz. ‘That the Spaniards met some females carrying wood and furze, and driving them into the church, compelled them to let down their burdens, which they set fire to, having opened the door to receive the blast of a strong south wind; the direction of the wind consumed the church, but preserved the porch’. On this subject let me add, that the thick stone division at the back of Trevarveneth seat, is a part of the old church.

In the church is the following curious notice, of its having been burnt. ‘The Spanger burnt this church in the year 1595.

The first entry that is made in the registers, is of Jenkin Keigwin of Mousehole, who was killed by the Spaniards, and was buried July 24th 1595.

The arms and coat of mail belonging to Colonel Godolphin, of Trevarveneth, are now to be seen hanging up near a monument erected to his memory in the middle aisle of this church. The church has three aisles, and is thirty yards long and seventeen wide. The tower is eighty-four feet in height.

Newlyn for population and extent, may be reckoned equal to many towns; it consists of one principal street, nearly half-a-mile in length, with three or four small streets branching from it.

In this village is a small but commodious pier capable of containing vessels of one hundred tons burthen; but is chiefly employed by the fishing-boats belonging to this place, which exceed four hundred in number. This village sends about forty boats to sea on the mackerel fishery, and Mousehole about twenty.

In no part of Cornwall are fisheries carried on to a greater extent, (of which we shall give a full description in the end of this work,) than in this village, and the neighbouring one of Mousehole; the fame of Mount’s Bay mackerel, is known in every maritime town on the southern coast, from Mousehole to Portsmouth. The London markets are furnished with mackerel from these parts, in the early part of the season. The dried ling, of Newlyn and Mousehole, is esteemed as a very superior fish.

This coast abounds with turbot, dory, mullet, cod, ling, haddock, pullock, whiting, sole, plaice, hake, bream, conger, cray-fish, lobster, crab, &c., the greater part of which are caught with hook and line.

In Newlyn there is a small market held on Saturdays, chiefly for butcher's meat, but in general the inhabitants purchase their commodities at Penzance.

In this village there are meeting-houses belonging to the Methodists, Baptists, and Independents.

On the road from hence to the village of Mouse-hole, (which is about a mile and half distant,) we pass a platform, that during the late war, was a battery forming a great security to the Bay, from enemy's ships. Adjoining this battery is a furnace for the purpose of making shot red-hot. During the war, this battery was governed by a small party of the Royal Artillery.

The land in general in this parish is fertile, yielding profitable crops of corn; and in most places the soil is congenial to the growth of potatoes; more particularly on the margin of the sea, between Newlyn and Mousehole.

The manor of Mousehole, belongs to the heirs of George Veale Esq., and to James Halse Esq., of St. Ives. The manor of Freemarshall, is the property of George John Esq., of Penzance. Trungle, which was for some time the seat of Capt. Hichens, is now a farm-house. The manors of Kemyel and Butsava, have belonged to the St. Aubyn family for many generations. The barton of Trewarveneth originally belonged to the family of Cowling, who resided here, at present it is the property of Mr John Legge. The barton of Kerris (which is said to have formerly had manorial rights,) was granted under the name of Keres, to the Duke of Norfolk, in 1483. The vicarage is in the gift of the crown.

Steven Hichens Esq., who died at Jamaica in 1709, bequeathed £600, for the purpose of building and endowing an alms-house in this parish, for six poor men and the same number of women.—The management of this charity is vested in fourteen trustees, and the lands now produce about £70 per annum.

Mousehole is rendered notable by antiquarians, for having been the residence of Dolly Pentreath; who is said to have been the last person known to speak the Cornish language. In the year 1773, she was eighty-seven years old, maintained partly by the parish, and partly by fortune-telling, and gabbling Cornish. It appears from her epitaph in the church-yard, that she lived to the great age of one hundred and two. Her epitaph is both in Cornish and English, in both of which languages, as it is a literary curiosity it is here inserted.

#### CORNISH.

Coth Doll Pentreath cans ha Deau;  
Marow ha kledyz ed Paul plea:—  
Na ed an Egloz, gan pobel brâz,  
Bes ed Egloz-hay coth Dolly es.

#### ENGLISH.

Old Doll Pentreath one hundred ag'd and two  
Deceas'd and buried in Paul parish too;  
Not in the church with people great and high  
But in the church-yard doth old Dolly lie.

From the preceding account, it has generally been believed that the Cornish language and Dolly Pentreath expired together. But on a perusal of this epitaph it is natural to enquire, by whom was it written, and by whom translated? These questions look with a formidable aspect on those opinions, which assert that 'Dolly Pentreath, was the last who could speak the Cornish language'.

That Dolly Pentreath was not the only person who understood Cornish, the Hon. Daines Barrington on mature inquiry makes appear quite plain, for on the 3rd July 1776, he presented a letter to the Society of Antiquaries, written in Cornish and English by William Bodener, a fisherman of Mousehole. This fisherman says, 'that he was then sixty-five years of age, and that there were not more than four or five persons in Mousehole, who could talk Cornish'.

Dr. Pryce, in his preface to his 'Archæologia Cornu-Britannica', published in 1790, speaks of a man then living at Mousehole, (seventeen years after the decease of Dolly Pentreath,) who understood and could speak the Cornish language. Of this man he does not give the name; so that it is difficult to say, whether he means Bodener who died in 1794, or some other person. If this man be the same as Bodener, the statement of Dr. Pryce confirms the account of Mr. Barrington; and if he be another person, we learn that the Cornish language was not so near extinct as some have imagined.

In this village there is a meeting-house belonging to the Methodists, in which Divine service is regularly performed.

At Kerris in this parish, there is an oval enclosure, about fifty-two paces from north to south, and thirty-four the contrary way, composed of stones without mortar. At the south end are four rude pillars (forming an entrance to the area,) about eight feet high, and at the foot of them lie some large long stones, which appear to have formerly rested on those pillars. This was formerly a place of worship, and the erect stones were designed to distinguish and dignify the entrance.—The circle we are describing is at present called the *Roundago*, which name it may possibly have acquired from the superstitious rounds of the Druids.

In 1723, some small brass coins were found in an urn mixed with earth, at this place. This urn with its contents, were found in a vault paved with stone. The vault itself was eight feet long, and six feet high. At the same time was found in this vault, a plain fair urn of the finest red clay, full of earth. By the largeness and strength of the vault, the smallness of the urn, and the earth without any bones, this urn must have contained the ashes of some considerable person. 'This urn and coins' says Dr. Borlase, 'may be justly pronounced Roman'.

Paul contains 2865 acres, and about 700 houses

#### ST. BURYAN.

THIS parish according to Mr. Whitaker, Dr. Borlase, and others, derives its name from St. Berien, or Burianna a holy woman, a native of Ireland, who came into this country about the year 460, in company with many others of exalted birth and dignity, (she being a king's daughter,) and landed at St. Ives.

This parish is situated six miles south-west of Penzance, and about four miles from the western extremity of the kingdom.

The church (which is conspicuous from many distant places,) stands on some of the most elevated land in this part of the county; according to Dr. Berger's papers on Cornwall, it is said to be four hundred and sixty-seven feet above the level of the sea. It is built of granite, and consists of three aisles, which are divided from the east end by a roodloft of oak. This roodloft is decorated with a profusion of gilding and carvings of huntsmen, hounds, &c., &c.

A venerable monument was discovered about the year 1665, by the sexton, in sinking a grave: who met with a large flat marble stone, which he lifted up out of the earth, and thereon was cut or engraved, a long plain cross, surmounted on four grises or steps. On the border of this stone is an inscription in an ancient character, and difficult to be read; which the curious have found to be in Norman-French, running in English thus:—‘Jane, the wife of Geoffrey de Bolait, lieth here. Whosoever shall pray for her soul shall have five days pardon. M. LX. IX’.

Morden says, that the numerals at the end of this inscription are not correctly stated, since not only the year, but the month, and day of the month are both inserted. He states ‘at the bottom are these figures, which may be supposed to mean March 16th 1101’.

There is at present in this parish a place which bears the name of Bolleit; or Bollait; and there can be little doubt, that the person interred, had when living, her residence on or near this spot; and perhaps the family communicated the name which it still retains. On this estate, there are two remarkable stones standing erect, about a furlong from each other. One of these stones is twelve, and the other sixteen feet in height.

In 927, King Athelstan entered Cornwall, with a numerous army to subjugate the Cornish; who like the Cumbrians and the Northumbrians of the same era, found all resistance vain. For that reason no battles were fought, as the Cornish submitted every where without opposition.

In this expedition, as Athelstan was proceeding through Cornwall, when he was ‘about four miles from the Land’s End, but directly in the present road to it, as he was equally pious and brave, he went into an oratory, which had been erected by a holy woman of the name of Burien, that came from Ireland, and was buried in her own chapel.—He knelt down in prayer to God, full of his coming expedition against the Sylley Isles, and supplicating for success to it: then in a strain of devoutness, he vowed if God blessed his expedition with success, to erect a college of clergy where the oratory stood, and to endow it with a large income’. So at least said the tradition at St. Burien’s itself, no less than two centuries and half ago!

Athelstan thus prepared, ‘sat out with his armament for Sylley’. Success crowned his enterprize. He reduced the Scilly Islands, and returned victorious to the Land’s End.

On his arrival at the oratory, he presented thanks to God for his success, where he had prayed for it before; and ordering a church to be erected on the spot, for the use of the parish, and a college of clergy to minister in it, assigned to it a quantity of land that had fallen to him by right of conquest, for its endowment, and gave it the privileges of a sanctuary. But what forms a strong proof of the justness of this tradition, is, that this church is actually noticed in Doomsday book, about one hundred and thirty years only, after this period, as a college of canons even then possessing an estate denominated *Eglos Burien*, exempt from all assessments whatever. This even continues to the present moment a *royal free chapel*, in the patronage of the crown; and with a jurisdiction so independent of the ordinary, that its only remaining member of the whole body, its head the dean, receives his instructions and takes his oaths before the king himself, as his ordinary.

The remains of this church were wantonly destroyed by Shrubshall, the governor of Pendennis castle under Cromwell.

The manor of Treviddron was the property of the Vyvyan family, where they resided until they removed to Treloarren.

For the instruction of the poor, a school has been instituted under the management of trustees, who provide a house and pay eight guineas per annum to a master, for teaching seven poor boys to read.

In this parish is a circle of nineteen upright stones, called *Dance Mein* or the *Merry Maidens*, from the whimsical tradition that nineteen young women were thus transformed for dancing on the Sabbath day.

There are also in this parish within a short distance of each other, and near Rosemoddress, three holed stones, or Tolmens; one of this kind of stones is particularly mentioned under the head of Madron.

At Karne Boscawen, there is a monument of the pensile kind, of a very singular construction. This monument consists of one large flat stone, one end of which rests upon a natural karne, or elevation of rocks, and the other on three large stones piled one on the other, in order to raise a proper support for the end of the horizontal flat stone. Immediately under the canopy or covering stone, the opening between its two supporters is seven feet wide. ‘This canopy’ says Dr. Borlase, ‘is too nicely supported to be the work of nature; and one must check one’s imagination very much, not to conjecture that the opening underneath it, was designed for the seat of some particular person, from which he might give out his edicts and decisions, his predictions and admissions, to his novices’.

Boskenna, this highly romantic seat, is the property and residence of John Paynter Esq.

St. Buryan, is replete with objects of curiosity. The summits and sides of the eminences, and the bottoms of the vallies, are mostly covered with large masses of granite, either collected together, or scattered singly. Among these are several cairns, circles, cromlehs, and holed stones. The inquisitive antiquary may here examine an interesting variety of British monuments, and become acquainted with their peculiar shape and character.

St. Buryan contains 6274 acres, about 250 houses, and 1500 inhabitants.

#### ST. LEBAN.

THIS parish was a place of some celebrity when Christianity first triumphed over the horrid rites of Druidism. St. Levan’s well is recorded for its miraculous excellencies in the rolls of superstitious fame. Over this well, (which is still preserved with careful veneration,) is an ancient oratory, five feet square and seven feet high. About a quarter of a mile from this holy fountain, is the site of an ancient chapel called Port-Chapel, and about a mile to the eastward is the site of another called Curnow; but little more is known of them than their situations and their names.

St. Levan is about eight miles nearly south-west from Penzance, and about three miles south-east from the Land’s End. As the rival of the Land’s End, St. Levan claims the honour of including Tol-pedn Penwith.

Tol-pedn Penwith is divided from the main land by an ancient stone wall. Several appearances on the cliffs strongly indicate that some ancient fortifications existed here, and this wall might probably have formerly been connected with the means of defence.

About a mile and half to the east of this point, is Treryn Castle, or Castle Treryn. It is enclosed by two formidable ramparts and ditches, one within the other, stretching in a semicircular form from the sides of the cliff. The perpendicular rocks form three sides of this fortification; and the land side is guarded by these high and thick embankments. Descending from this cape towards the sea, three groups of rocks appear before us, which seem to be formed of perpendicular crags or columns, the bases of which project with wild disorder into the sea. On the summit of the middle group, an enormous logging-stone has found its bed. This extraordinary stone, which is a block of granite, and weighs by estimation about ninety tons, has projecting from its bottom, a kind of central ridge, upon which it is so nicely poised, that resting as it does on the flat surface of another rock, a small degree of force can easily move it from side to side, through the space of a few inches. In the year 1824, this enormous mass was thrown over on its side, by the commanding officer of a revenue cutter and his crew; who in the latter end of the same year, (having obtained a grant from government of the necessary materials from Plymouth Dock-yard,) endeavoured to replace this rock in its former position, in which (after several attempts) they succeeded as nearly as possible, but its logging properties are almost destroyed. It is not without considerable trouble, that the rocks can be scaled with which it is surrounded; and many who have proceeded to the group of rocks on which it rests, have been deterred from ascending the winding path, (if such it may be termed,) which leads over crags and chasms to its sublime abode. It is not easy to conceive a situation of more magnificent grandeur, than the station which it fills. Surrounded by an immense pile of rocks, in an elevated region, where the reign of silence is interrupted only by the screams of sea-birds, the roaring of tempests, and the dashing of waves, this enormous logging-stone seems to frown in solitude over that desolation which its appearance augments.

Toland in his History of the Druids asserts, 'that the Druids made the people believe that they only could move these rocks, and that by a miracle; by which pretended miracle, they condemned or acquitted the accused, and often brought criminals to confess what could in no other way be extorted from them'.

We have however from what we know of the character of the Druids, little reason to think that they restricted these logging-stones to the confirmation of their predictions or mandates. It can only be in allusion to this circumstance that the following lines can be understood

"Behold yon huge  
And unhewn sphere of living adamant,  
Which pois'd by magic, rests its central weight  
On yonder pointed rock; firm as it seems,  
Such is its strange and virtuous property,  
It moves obsequious to the gentlest touch  
Of him whose heart is pure: but to a traitor,  
Though e'en a giant's prowess nerved his arm,  
It stands as fixed as Snowdon".

MASON.

Near Tol-pedn Penwith is the Funnel Rock, which is excavated nearly perpendicularly, and resembles a vast inverted cone. In this cavity the Cornish Chough, has built her nest for several years past. The Rundle-Stone which lies nearly opposite to this rock, (on which a buoy has been affixed,) has proved fatal to many vessels,

Leland says, 'that at Tredine, or Treryn, the south-west point of Cornwall, a brass pot full of Roman money was found by some men who had been digging there for a fox'.

The barton of Bosistow, was at a very early period the seat of a family of that name.

St. Levan is in the deanery and west division of the hundred of Penwith, and contains 2079 acres, about 90 houses, and 450 inhabitants.

#### SENNEN.

SENNEN is about eight miles and half from Penzance, and may be considered as the most westerly parish in England. The church is about a mile from the Land's End.

The Land's End, called by Ptolemy, Bolerium, and by the British bards, Penring-huaed, or the *promontory of blood*, is the most westerly promontory in England, lying nearly three hundred miles west by south from London. The scenery of this spot, is of the most awful and sublime description. The huge and rugged rocks, which rise in awful majesty to the height of one hundred and fifty feet, forming a barrier to the tumultuous, sea; the immense expanse of water: the ceaseless roar of the waves; the constantly-changing effect of light and shade playing on the surface; vessels sailing in all directions; and various aquatic birds wildly screaming at the sight of man, or pursuing their instinctive propensities; all combine on this spot, to fill the mind of the spectator with emotions of astonishment, admiration, and terror. So well has Sir Humphry Davy, in his poem entitled 'Mount's Bay' described this spot, that we have ventured to insert an extract:—

"On the sea  
The sun-beams tremble, and the purple light  
Illumes the dark Bolerium, seat of storms.  
High are his granite rocks; his frowning brow  
Hangs o'er the smiling ocean. In his caves  
The Atlantic breezes murmur; in his caves,  
Where sleep the haggard spirits of the storm.  
Wild, dreary are the schistine rocks around,  
Encircled by the wave, where to the breeze  
The haggard cormorant shrieks; and far beyond  
Where the great ocean mingles with the sky,  
Are seen the cloud-like islands, grey in mists".

In the last line of the above verses, there is a reference to the Scilly Islands, which lie in a cluster about nine leagues west by south from the Land's End, and are distinctly visible in clear weather.

The cliff which bounds this extremity of our island, is composed entirely of granite, the forms of which present an extraordinary appearance, assuming in some places the resemblance of shafts regularly cut with the chisel; while elsewhere the impetuous waves have opened for their retreat, gigantic arches, through which the billows roll and bellow with tremendous fury. This promontory according to Dr. Halley, is in latitude 50 degrees 5 minutes, and in longitude 6 degrees 7 minutes.

Another abrupt promontory called Peden-mændue point, beset with frowning rocks that forbid all approach to it by sea, shoots out into the ocean in the vicinity; while Cape Cornwall (which is in the parish of St. Just,) shelters from the storms and surges that come from the north-east the capacious excavation of Whitsand Bay, so called from the peculiar whiteness of its sand. In this bay King Stephen landed, on his first arrival in England, as did King John on his return from Ireland, and Perkin Warbeck, in the prosecution of his claims to the crown in the reign of Henry VII.

At the distance of a mile and half from the Land's End, a group of rocks called the Longships arise; on the largest and central one of which a lighthouse was erected, in consequence of the very dangerous character of this coast, in 1797. The tower is constructed of granite, according to the plan adopted by Smeaton, in the Eddystone lighthouse. The circumference of the tower at its base is sixty-eight feet; the height from the rock to the vane of the lantern fifty-two feet; and from the sea to the base of the lighthouse sixty feet. Notwithstanding this elevation of one hundred and twelve feet from the sea, the lantern has often been dashed in pieces by the spray of the ocean during the winters' tempest. Three men belong to this lighthouse, two of whom are continually on the rock, while the third is permitted to live at St. Just, to relieve one of the others every month. By these changes each man spends two months in the lighthouse, and one on the main-land; unless the severity of the weather, by cutting off all communication, interrupts the regularity of these arrangements. This sometimes has been protracted to four months;—during which time they can communicate by no other means than by signals. For this melancholy, this dangerous, but this necessary service, each man is allowed thirty pounds per annum, besides king's provisions.

It has been said of Empedocles, that he plunged into the crater of Mount Etna, to acquire immortal reputation. The same principle of rash ambition seems to have influenced a modern traveller about twenty years since, who anxious to acquire fame, disdained to pursue the common path which had been trodden by vulgar feet. About two hundred yards before the land terminates at the Land's End, the ground rapidly declines, and the isthmus becomes very narrow; its greatest width not exceeding fifty yards. Approaching this tremendous spot every rider is requested by his guide, (as well as by common prudence,) to alight and walk to the awful extremity. But the traveller of whom we speak, spurred on a valuable and spirited horse to the tremendous precipice. The animal warned him of his danger by manifesting strong symptoms of terror. The guide in vain endeavored to dissuade him from the wild attempt. Arriving near the point, the mingled roar of the winds and waves rendered the horse ungovernable. The gentleman now began to find, that he had carried his foolish ambition too far, and on striving to turn the animal round, it snorted, plunged, and running backward, curvetted to the very brink of the precipice when the rider whose fate depended on the moment, threw himself with desperation on the ground. That very instant the horse plunged down the precipice, and falling on the rocks below was dashed to pieces. The rider was taken up half-dead, with terror; and for a considerable time afterwards he suffered from the effects of his contemptible vanity.

The awful spot is marked by the figure of a horseshoe, traced on the turf with a deep incision.

In this parish is a large flat stone called *Table-Mean*, on which according to Hals, seven Saxon kings dined at one time, when they came into Cornwall to visit the Land's End. The names of these kings are preserved, and they are said to have flourished about the year 600.

The manor of Mayon belongs to Sir John St. Aubyn, Bart., and the heirs of Dionysius Williams Esq. In the reign of Queen Elizabeth, the barton of Penrose was a seat of the family of Jones.—This is now the property of Earl Falmouth. The barton of Trevar, was for some time the seat of the family of Ellis. Both of the houses on these estates are occupied by farmers.

In 1750, John Roberts of this parish digging for tin at Velindreath, found at the depth of thirty feet an entire skeleton, about the size of a large deer lying on its side. Near it, in a line parallel to its vertebrae was a prostrate oak tree, twenty feet long, and about the diameter of a man's waist. On the branches, were numerous leaves; the tree was very hard at the knots, but so soft in some parts that the shovel stuck into it. Near the skeleton lay part of a deer's horn, two feet and half long with the branched antlers to it. One of the knobs, as soon as touched crumbled to dust. In 1758, were found twenty feet under the surface, several pieces of deer's or elk's horn. The stratum in which they lay, was first the shelly sand of the shore, nine feet deep; then a sandy earth intermixed with small stones.—From the sudden subsidence of the shelving part of the hill, the animal and the tree were hurried away in one direction, and overwhelmed in the same instant.

About the year 1807, three hundred small copper and plated Roman coins, were found between two flat stones, under a large projecting rock, in a field near the Land's End; they were chiefly of Galienus, Posthumus, Victorinus, and Tetricus.

Carew mentions a little village called Trebayan; or, *the town of the giant's grave*, not far from the Land's End, 'neer which and within memory, certain workmen searching for tynne, discovered a long square vault, which contayned the bones of an excessive big carkas, and verified this etymology of the name'.

At Sennen church-town, about a mile from the Land's End, is an inn, the sign of which is on the one side, 'The First Inn in England'; and on the reverse 'The Last Inn in England'

Sennen church-yard is kept very neat, the graves are neatly paved, and are regularly put in order every year.

About eight miles from the Land's End, a tremendous rock rises in the sea called the *Wolf*; a name too mournfully applicable, from its having proved fatal to many ships and mariners in dark and tempestuous weather. In stormy weather the roaring sound occasioned by the sea beating over this rock, may be heard to a great distance. An attempt was made some years since, to fix an enormous figure of copper resembling a wolf, on this rock. Being hollow within it was intended, to cause bells to be so suspended, as to toll with the powerful blast. But this benevolent design, after several ineffectual efforts had been made at a vast expense, was ultimately defeated by the violence of the elements, with which the structure had to contend, and by which the philanthropic projector had nearly lost his life.

This parish is at present a parcel of the deanery of Buryan, to which it is a daughter church, and of which the dean receives the tithes.

Sennen contains 2223 acres, about 120 houses, and 550 inhabitants; is in the hundred of Penwith.

### ST. JUST.

THIS parish is in the westernmost district of the county. It is situated about seven miles nearly west from Penzance. The church-town in this parish is of considerable size; and, besides this, it has several villages, of which the principal are Botallack, Bosavern, Brea, Kelinack, Pendeen, and Trewellard.

On the western side of this parish are the remains of an ancient chapel. Its foundation is about fifteen feet high, and it rises about ten feet higher; it is walled and arched over with moor-stone, having one window in the east end, and a door fronting the south. It is about fourteen feet long, and ten broad, having several moor-stone steps in a state of decay. This old chapel stands on a singular tumulus of cairns, which in connexion with the building is called Chapel Carn bre.—There are not many bolder cairns than this to be found in Cornwall. On the plain near Cape Cornwall are the remains of another ancient chapel forty-five feet by twelve, with a chapel-yard contiguous to it.

Pendeen, which was the birth-place of the justly celebrated Dr. Borlase, and which has been for a considerable time a seat of this family is at present a farm-house, the property of Samuel Borlase Esq.

In this parish is a circular enclosure, one hundred and twenty-six feet in diameter, which had six seats or benches, for the accommodation of the audience. ‘In these amphitheatres’, says Dr. Borlase, ‘the Britons did usually assemble to hear plays acted, and to see the sports and games, which upon particular occasions were intended to amuse the people, to quiet and delight them’.

In the year 1773, Mr. R. Williams, of Chikarn, in this parish, discovered a very remarkable monument whilst removing a barrow. As he approached towards the central parts of the barrow, he found a great many urns, of which he took not much notice. When he came to the centre, he discovered a square stone chest, or cell, in which he also found an urn, finely carved and full of human bones. According to the best of his recollection, the number of urns amounted to about fifty. These were ranged around the central one, and had within them some remains of bones and earth. All however, were either broken or thrown away as of no consequence, excepting the principal one, which Mr Williams carefully preserved on account of its neat carvings, and carried to his house to exhibit to the inspection of the curious. From the workmanship of this urn, scarcely any doubts can remain of its being Roman; and consequently, this being decided, we cannot but determine all the others to belong to the same nation.

At Pendeen-Vau, are three long caves or galleries, supposed to have been places of retreat for the ancient Britons, in time of war or danger;—these caves are very complicated, having several passages communicating with one another by steps.

At Wheal Cock mine in this parish, native silver, in the days of Dr. Borlase, was discovered among the copper ore; in which, this gentleman once found a portion about the size of a walnut that was pure and unmixed.

Dr. Borlase says, ‘that on Douran a very singular stream of tin was discovered in the year 1738. The ore which was pulverized, was between twelve and eighteen inches in depth, and of various breadths. It was first discovered in a moory soil, having on it a black stratum of gravel, about two feet thick. But as the stream advanced more to the hill, it had a still thicker covering;—till entering the rising ground, it had all Douran hill upon it, which was about forty feet perpendicular! while the stream pursued its original horizontal direction’.

Botallack mine is situated near the western extremity of the parish. It is very productive of tin and copper, and the workings are more than one hundred and ten fathoms below high-water mark; the sea in some places actually filters through the roof of the mine! This mine whether considered with respect to its valuable and varied mineral productions, the labour and perseverance required in working it, or for the rude yet magnificent nature of its surrounding scenery, is entitled to particular attention, and cannot fail to excite the admiration of the tourist. In stormy weather the roaring of the sea is distinctly heard in the deepest level, which is more than seventy fathoms from the shaft. In the early stages of the undertaking it was found necessary to lower an immense steam-engine down a tremendous precipice, of nearly eighty yards, in order to prosecute the mine under the bed of the Atlantic ocean!

From this steam-engine to the summit of the rock was a channel cut of three hundred feet in length, by which the ore was drawn up in a bucket.

About two hundred and fifty men are employed in this mine; which to the visitor, and admirer of nature will prove particularly interesting; We would therefore recommend to all who should visit Penzance, to lose no opportunity of visiting (at least,) this celebrated mine, the Land’s End, and Logging Rock.

At Chycornish Cairn near this mine, is a hornblende rock, which on being struck emits a sound similar to that given out by metal under like treatment: this is commonly called the ‘Ringing Rock’.

St. Just contains 6984 acres, about 625 houses and 3150 inhabitants; is in the hundred of Penwith.

### FISHERIES.

Amongst the fisheries of Cornwall, the pilchard is the principal; preparations for taking which are generally commenced about the end of July, at which time the pilchards are expected to pay their annual visit. They make their appearance chiefly in the evenings; so that the boats rarely go to sea before four o’clock, or continue longer than ten. Sometimes they again go out early in the morning, and occasionally take fish about the rising of the sun. The boats scattered at a little distance from each other, await those indications of a shoal with which the men are well acquainted. These are, the jumping of some of the pilchards above the surface of the water; the ascent of bubbles from the bottom: and a peculiar hue of redness which the water acquire when the shoal is large. They then proceed to enclose them in the following manner:—The end of the net being thrown overboard, the charge of which is committed to the *follower*, to prevent it from being dragged away, the seine-boat is rowed gently by some of the men, while others cast the net overboard;—They always take a circular course; and their first care is to secure with the net that part towards

which the fish are swimming; and finally so to carry the net around them, that they shall be hemmed in on every side. The whole time considered necessary for two strong men to throw the net overboard, is from four to six minutes. The net immediately spreads itself, the corks on one edge rendering it buoyant, and the leads on the other causing it to sink to the bottom; for if the depth of the water exceeds the width of the seine, there is little or no probability of securing any fish, however large the shoal may be. Ropes are now carried out from each end, which cross each other, by which the men on board the two large boats warp them together until they are brought in contact. When this is done, the two extremities are lifted from the bottom, and laced together with the utmost expedition. This being done, the fish remain within an enclosure, the seine forming a circle round them, extending from the surface to the bottom. To secure the seine in this position, grapnels are carried out at some distance on every side, thrown to the bottom, the ropes from which are fastened to the rope at the upper edge of the net. These grapnels preserve the seine in its circular position against the influence of tides and changes of weather. The shoals occasionally contain from two to five thousand hogsheads. It has been found by experience, that a large shoal is more easily secured than a small one; as such large bodies move with less rapidity.

The stop-seine being thus lodged in the water and made secure, the tuck-seine is carried within the enclosure. Being carried round the fish, the foot rope is drawn with its leads along the bottom, and afterwards raised in a gradual manner to the surface of the water, when the two large boats are laden, and the remaining part is turned back into the large enclosure. The boats then proceed to the shore, where women are waiting to receive the fish into the cellar for curing.

Another method of taking pilchards is with nets having larger meshes, in which the fish get entangled. These driving-nets, as they are termed, are drawn after their respective boats, fastened only at one end, through which the pilchard is arrested as it attempts to pass. These boats and nets are always at a considerable distance from the shore; lest by approaching too near, they should disperse the shoals which the seines are waiting to take.

The pilchards being brought into the cellars, are laid in layers on the floor, that the oil may run into a receptacle for that purpose. The time allowed for the fish to lie in bulk, is sometimes regulated by the wishes of the merchant. The customary time is four weeks, and from then to five or six; but no established rule prevails.

The fish taken from the bulk are carried to large troughs, in which they are washed, and completely cleansed from the salt, filth, and oil, which they acquire while lying in bulk. They are then packed in loose casks, pressed, and filled up again, the barrels are then branded with the curer's name, and exported as occasion may require.

Pilchards that are caught early and are fat, are supposed to yield one hogshead of oil from ten of fish. But it frequently happens that double this quantity will not yield more. The oil varies in price, from £20 to £28 per tin. The common price of pilchards may be estimated at £2. 2. per hogshead. The skimmings which float on the water is sold the soap-boilers at fifteen pence per gallon. The dregs which remain in the oil reservoir, are sold to the curriers at about sixteen pence per gallon, on the average.

The first outfit of a seine, with its boats, oars, sails, ropes, nets, and salt sufficient to cure five hundred hogsheads of fish, cannot be estimated at less than £1000. The preparations for the water consists of three boats, two large ones and a small one. Each large boat contains seven men, and in the small one, are the master, another man and two boys. The *seine-boat* and the *follower* are names by which the two large boats are distinguished; and the small one is called the *lurker*.

Besides pilchards, mackerel and herrings make their periodical appearance in immense shoals.—Mackerel are taken in large nets, called *drift-nets*, which are of various lengths from 100 to 1000 fathoms, and 10 fathoms deep. These nets are cast, or *shot*, from the boats, at the ebbing and flowing of the tide, and allowed to drift with the stream; the bottom of the net being kept down by weights and the top supported by corks. The fish are caught by being entangled in the meshes. From April to October and sometimes later, the mackerel rarely ever forsake the Cornish coasts. The place of their principal resort, is the neighbourhood of Penzance. When fresh, it is in universal estimation; and in the country, the vast numbers that are salted, form in winter, among the lower and middling orders of society, one of the necessities of life.

#### THE END.

Printed by John Thomas, East-Street, Penzance.

### 1842 Description of some new ferns lately discovered in New Zealand.

*Tasmanian Journal of Natural Science, Agriculture, Statistics, Etc*; 1: 375-379.

#### Genus, LOMARIA. Willd.

**GEN. CHAR.** *Sori lineares continui dorsum frondis contractæ tegentes. Indusia marginalia conniventia. Spreng.*

**1. LOMARIA NIGRA.<sup>91</sup>** *Plant*, low, prostrate and spreading; colour, dark green approaching to black. *Fronds*, ovate-lanceolate, pinnate; 6-8 inches long, 1-1 $\frac{1}{4}$  inches broad. *Sterile frond*; *pinnules*, alternate, sessile, ovate-ligulate, broadest at base, very irregularly toothed and jagged, revolute, veined, blistered, and roughish;  $\frac{1}{2}$ - $\frac{3}{4}$  inch long,  $\frac{1}{4}$ - $\frac{1}{3}$  inch broad; two next to lowest the smallest; terminal lobe 1-2 inches long: *midrib*, tomentose, 5-6 $\frac{1}{2}$  inches: *stipe*, channelled, hairy; 1 $\frac{1}{2}$ -2 $\frac{1}{4}$  inches; [376] colour dark brown. *Fertile frond*, pinnate, much caudate: *pinnules*, alternate, sessile, linear, obtuse, tomentose on upper surface; 1-1 $\frac{1}{2}$  inches long,  $\frac{1}{6}$  inch broad; terminal pinnule 2 $\frac{1}{2}$ -3 inches long: *midrib*, tomentose, fimbriate; 3-4 inches long: *stipe*, cylindrical, hairy, fibrous, scaly at lower end; 3-4 inches; colour, as that of barren frond.

*Hab.* Humid places in the dense forest between Tauranga and Rotorua, on the east coast of the North Island. January, 1842.

<sup>91</sup> *Blechnum nigrum* (Colenso) Mett.

**2. L. LINEARIS.**<sup>92</sup> *Fronds*, linear-lanceolate: *root*, creeping, scaly and downy. *Sterile frond*, pinnatifid, often deflexed: *lobes*, semi-oblong, obtuse, revolute, smooth, entire, and veined;  $\frac{3}{8}$ – $\frac{1}{2}$  inch long; yellowish green, sometimes reddish: *midrib*, smooth; 4–6 inches long; scaly, scales long and scattered: *stipe*, smooth, obtusely angled, scaly at base; 3–4 inches long; brownish red. *Fertile frond*, pinnate, very erect: *pinnules*, lowermost opposite, upper alternate, obovate, entire and smooth;  $\frac{1}{8}$ – $\frac{1}{4}$  inch long; brown-black: *midrib*, smooth; 4–8 inches long: *stipe*, smooth, obtusely angled, channelled, brittle, and very closely covered with large scales at the base; 7–10 inches long; colour as that of sterile frond.

*Hab.* Margins of woods, near *Te Waiiti*, a village in the interior of the North Island, two days' journey south east from Rotorua. January, 1842.

*Obs.* A variety was also found, growing plentifully on dry heaths, near *Wakapunake*, two days' journey from Poverty Bay on the east coast, in December, 1841. The fronds, however, only measuring from 2 to 4 inches in length.

**3. L. DELTOIDES.**<sup>93</sup> *Fronds*, erect, drooping, solitary, oblong-triangular, and caudate. *Barren frond*, pinnate, upper lobes pinnatifid: *pinnules*, sessile, close, ligulate-lanceolate, somewhat falcate, obtuse, broadest at base, [377] margined, repand, veined and puckered, and slightly hairy on the veins of under surface; lowermost opposite and auricled; 1 $\frac{1}{4}$ –1 $\frac{3}{4}$  inches long, inch broad; light green: *midrib*, upper surface smooth and light brown, under thinly haired and yellowish white; 8–10 inches long: *stipe*, smooth, channelled; light yellow; 10–12 inches long; rough towards base, base clothed with long brown scales. *Fertile frond*, pinnate, very caudate: *pinnules*, sessile, distant, alternate, linear-lanceolate, obtuse, smooth, entire, slightly decurrent, ciliate at margin; lowermost ones opposite; 1 $\frac{1}{2}$  inches long,  $\frac{1}{4}$  inch broad; upper surface, dull green; middle vein of pinnules prominent and yellow-coloured: *midrib*, smooth, channelled, yellow; 6–8 inches long; *stipe*, smooth, channelled, lower part rough and thickly set with long hairs and scales; straw-coloured; 11–14 inches long.

*Hab.* In woods in *Te Waiiti* District, nearly same locality as preceding. January, 1842.

**4. L. ROTUNDIFOLIA.**<sup>94</sup> *Fronds*, lanceolate. *Barren frond*, spreading, deflexed, pinnate, uppermost lobes pinnatifid: *pinnules*, sub-rotund, sessile, membranaceous, slightly crenulate; uppermost ones ovate, lower ones opposite; 1 $\frac{1}{2}$ –3 $\frac{1}{4}$  inch long; colour light green: *midrib*, 6–20 inches long; densely covered with long scales: *stipe*, cylindrical; 1–4 inches long; brown. *Fertile frond*, very erect, pinnate: *pinnules*, alternate, sub-sessile, linear-lanceolate, obtuse, entire, distant; lower ones petiolate; 1 $\frac{1}{2}$ –1 inch long,  $\frac{1}{8}$ – $\frac{1}{4}$  inch broad; brownish red: *midrib*, 11–14 inches long: *stipe* (and midrib), channelled and thickly covered with scales; 2–9 inches long; light brown.

*Hab.* Dense woods near *Waikare* Lake, in the mountainous district in the interior of the North Island; five days' journey from Poverty Bay, on the east coast. December, 1841. [378]

*Obs.* This fern, in its native forests, presents a very graceful appearance. It there attains a large size (the specimen from which the annexed drawing<sup>95</sup> was taken being a very small one, chosen purposely to suit the size of the paper); some fronds having been observed between 2 and 3 feet in length. The fertile fronds, generally 3 in number in each plant, are invariably very erect and ascending, rising directly from the centre; while the numerous barren fronds spread out flat in an half-procumbent manner, enchanting the eye of the observer with a most beautiful, delicate, and ever green circle.

#### *Genus, HYMENOPHYLLUM. Smith.*

**GEN. CHAR.** *Sori* circum venam ultra frondis marginem in columellam subclavatnm productam sessilia, *indusia* frondi continuo bivalvi cincta. *Endl.*

**5. HYMENOPHYLLUM FRANKLINÆ.**<sup>96</sup> *Frond*, pendulous, lax, ovate-lanceolate, somewhat caudate, bipinnate, margined, silky, membranaceous and downy; 3–5 inches long, 1–1 $\frac{1}{2}$  inches broad; colour, reddish green: *pinnules*, pinnate, alternate, lowermost pair opposite; petiolate, falcate, margined, bifid at apex, and obtuse; *divisions*, cuneate, forked, linear and obtuse; 2, 3, and 4-lobed: *fructification*, supra-axillary and terminal; orange-coloured: *involutre*, small, shallow, densely bearded and ciliated: *stipe*, 1–2 inches long, cylindrical, tomentose, filiform, brittle, and brown-coloured: *rhachis*, downy: *hairs*, articulated, coloured, branched into 3, 4, and 5 rays; rays acuminate.

*Hab.* Climbing trees in woods on the banks of *Waikare* Lake, interior of the North Island; four days' journey from *Turanga* (Poverty Bay). December, 1841.

*Obs.* This very elegant and new species of *Hymenophyllum* literally clothes the trunks of the trees on which it lives in its native forests, with the excessive profusion [379] of its fronds. Viewed through a microscope, the cellular tissue, pores, and branched hairs of the frond, present a most splendid appearance. It has been named after Lady Franklin by the discoverer, in commemoration of her recent visit, and of the patronage afforded by her Ladyship to the different departments of Natural Science.

The *hairs*, as shown in the annexed drawing, are magnified.

#### *Genus, ASPIDIUM. Swartz.*

**GEN. CHAR.** *Sori* subrotundi sparsi. *Indusia*, solitaria orbiculata, medio vel latere affixa. *Spreng.*

**6. ASPIDIUM CUNNINGHAMII.**<sup>97</sup> *Frond*, pendulous, triangular, caudate, bipinnate, coriaceous, glabrous, light green; length, 14 inches, breadth, at base, 2 inches: *midrib*, margined towards apex and scaled: *pinnules*, alternate, lowermost sub-opposite, distant, petiolate, somewhat falcate, caudate, acute; upper ones pinnatifid: *petioles*, margined and scaled, scales very long: *leaflets*, sub-opposite, not crowded, falcate, sessile; lower ones, petiolate, pinnatifid, rhombic, bi- tri- and quadrifid and obtuse: *sori*, at extremity of

92 *Blechnum penna-marina* subsp. *alpina* (R.Br.) T.C.Chambers et P.A.Farrant.

93 *Blechnum vulcanicum* (Blume) Kuhn.

94 *Blechnum fluviatile* (R.Br.) Salomon.

95 Twice in this paper Colenso referred to drawings, but they were not, apparently, published.

96 *Stet.*

97 *Pneumatopteris pennigera* (G. Forst.) Holttum.

smallest veins, semi-sphaeroidal, much raised: *indusium*, peltate: *capsules*, numerous: *stipe*, 12–14 inches long, channelled, smooth, brittle and scaled; scales long; colour yellow-brown; very distant from each other on rhachis: *rhachis*, and base of stipe, densely fimbriated; scales light brown.

*Hab.* Climbing living trees, in the dense forests near *Ruatahuna*, a village in the interior of the North Island, about five days' journey from the Bay of Plenty. January, 1842.

*Obs.* This climbing fern, by far the largest yet seen in New Zealand (some fronds measuring, including stipe, near 3 feet in length), has been named by the discoverer in memory of the indefatigable botanist, his much lamented friend, the late Allan Cunningham, Esq.

### 1843 An account of some enormous fossil bones of an unknown species of the class Aves, lately discovered in New Zealand.

*Tasmanian Journal of Natural Science, Agriculture, Statistics, Etc; 2: 81-107.*

1844 *Annals and Magazine of Natural History* 14 (89): 81-96.<sup>98</sup>

### 1844 Memoranda of an Excursion, made in the Northern Island of New Zealand in the summer of 1841-2; intended as a contribution towards the ascertaining of the Natural Productions of the New Zealand Groupe: with particular reference to their Botany.<sup>99</sup>

*Launceston Examiner*, Launceston, 95p; reprinted 1846 *Tasmanian Journal of Natural Science, Agriculture, Statistics, Etc; 1846; 2: 210-234, 241-308.*<sup>100</sup>

98 Colenso later wrote (letter to the *Hawke's Bay Herald* 16 September 1898) that the Tasmanian paper had been "published under the kind auspices of the lamented Sir John Franklin, then Governor of Tasmania". The text of the 1843 paper, reprinted by Professor Owen in the *Annals and Magazine of Natural History* the following year, also forms Part I of Colenso's 1879 "On the Moa". *Trans. N.Z.I.* 12: 63-108. There are only minor textual differences among the three versions, so the latest, 1879 version is preferred here (q.v. below).

99 This is Colenso's revision of his "Journal of a naturalist in some little known parts of New Zealand". *London Journal of Botany* 1844; 3: 1-62 (completed in September 1842; see *Colenso's collections*, p.151). Colenso later wrote to Sir William Hooker that a "more elaborate account of that Ramble (was) subsequently published in the *Tasmanian Journal* vol. ii, p.210" (letter 22 January 1851).

100 The paper begins with a note from the editor to the effect that publication was delayed by a year, and that in the meantime the material had appeared in the *London Journal of Botany* (it had

HAVING made arrangements for visiting the native tribes residing on the eastern coast of the Northern island of New Zealand, I embarked at the Bay of Islands, on Friday, November 19, 1841, on board a little vessel bound for Poverty Bay. The wind failing, it was evening ere we rounded Cape Brett, the southernmost head of the Bay of Islands. This peculiarly bold headland has a very picturesque appearance, from a high and perforated perpendicular islet lying off it, called by the natives, Motukokako; which formerly possessed a fortification on its summit. This natural tunnel, large enough to admit of a boat being rowed through it, is visible from a great distance. Many of the rocks on the eastern coast of New Zealand are thus perforated; a circumstance arising from their formation: one such, it will be recollect, is represented in the plates to Cook's Voyages. The next morning, the wind freshening, we progressed delightfully down the coast, which here is much broken, and but thinly inhabited; the high ground in the back being covered with dense continuous forests of Kauri (*Dammara Australis*, Lamb.). At Wangarei (Bream Bay), the sand stone formation first conspicuously shews itself; the lofty and fretted peaks of the northern side of the harbour invariably [214] attracting the notice of the most careless observer. Of Manaia, the inner eminence of five jutting peaks, the natives tell a legend, stating that those peaks comprise Manaia, his wife, two children, and slave, who were here turned into stone. Paeko, the slave, is seen in a submissive bending position, just below the others, on the S.E. side of the eminence, to which place he was kicked by his mother! Among the natives, in cases where a female was suspected of adultery, and proofs were wanting, Manaia's aid was generally invoked in an ancient song. The scenery in this neighbourhood, especially from the village of Parua, looking over Kaiwa Bay, is of a very romantic character.

Evening overtook us off Aotea, or Barrier Island, where copper, and subsequently nickel, has been found. The wind falling calm during the night, we made but little progress. Morning discovered to our view the Mercury Isles, a group of small uninhabited islets lying off the northern head of Mercury Bay; one of the outermost of which has a gigantic perforation completely through, the bases of which natural arch are curiously ornamented with two colossal figures, in a reclining position. I obtained from these isles, a few years ago, fine specimens of menilite, wood stone,<sup>101</sup> and chalcedony; of the latter stone, which was unusually fine, large seals have subsequently been cut. Near Mercury Bay, the Dammar forests cease; and beyond Tauranga, in the Bay of Plenty, throughout the whole southern part of the island, a Dammar has never yet been seen. The wind being light, we made but little way; at evening, however, we had Tuhua, or Mayor Island, in sight. This island appears to be of volcanic origin, and abounds in pumice, obsidian, slag lava, pitch stone, and other vitreous and volcanic substances. I use the word [215] appear, in consequence of a curious relation, which, some years ago, I received from an old priest, residing in the Bay of Plenty. I bad been enquiring of him, the place where, and the manner how, they in former days obtained the green jade, or axe-stone, for ornaments

also appeared in booklet form, printed by the Launceston Examiner—see Introduction above). He reprinted WJ Hooker's introductory essay at the beginning.

101 WC: R. M'Cormick, Esq., H.M.S. *Erebus*, when looking over my cabinet, expressed his astonishment at my having similar specimens of wood stone to those collected by him at Kerguelen's Land; assuring me that they were perfectly alike.

and weapons of war; in answer to my enquiry, he asserted that this stone was both a fish and a god!—that it formerly lived at the island of Tuhua, whither the priests of all the neighbouring tribes used to go to take it; which was done by diving, accompanied with several superstitious ceremonies, in order to appease its wrath, and to enable them to seize it without injury to themselves—but that suddenly it made the whole island, and the surrounding sea, its *cloaca maxima*, covering every place thickly with excrementitious substances, which still remain; and swam away to the middle island of New Zealand, where it has ever since resided, and whence they have been obliged to obtain it. I scarcely need add, that those “excrementitious substances” comprise the different volcanic matter with which Tuhua is now covered. Perhaps, after ages may verify the tradition related, by the old priest, and bring to light the *soi-disant* god, in a buried stratum of axe-stone.

I obtained from this island, some time ago, several fine (though partly damaged) specimens of *Argonauta*, of a beautiful translucent texture. The whole body of the shell is pearly white, with an ochreous tinge towards the upper part of the largely dentated keels, which, two in number, are there of a dark umber colour. They measure 6-7 inches in diameter, and are closely allied to *A. argo*; the last whorl, however, is higher, bolder, and more orbicularly involute than in that species, approaching very nearly, in general outline, to that of *Nautilus Pompilius*.

The wind increasing during the night, the next morning we passed Puiaiwakaari, or White Island, whence the, steam and smoke ascended in dense clouds. On this island, as well as on other smaller islets in this bay, sulphur abounds. Soon [216] after, we sighted Wangaparaua, or Cape Runaway, and towards evening I landed on the little sandy beach in Warekahika (Hicks' Bay); a small bay between Cape Runaway and the East Cape. At this place I had landed, about five years before, on a visit to the natives of these parts. Several natives ran down to see the foreigner, who had so unceremoniously landed on their shores, by whom I was conducted to their village of miserable hovels among the sand hills. Here I detected, growing in the sand, a pretty little procumbent *compositaceous* plant, which was new to me; and a small shrubby succulent-stemmed plant, with fleshy leaves, which, from its two-celled capsule, &c., I supposed to be a species of *Euphrasia*, probably *E. cuneata*, Forst.; that species having been found in similar situations a little further south, by Sir Joseph Banks, in 1769. At this village I passed the night, and in the morning commenced my march onwards by the coast. The rocks in this locality, were chiefly composed of sand- and pudding-stone; the latter containing immensely large oyster shells, some of which were petrified, and contained in their cavities very fine chrysitals of lime. A walk of a few miles brought me to Te Kawakawa, a village situate on the immediate shore, under a high cliff of white clay. The cliffs here, are composed of a bluish indurated clay, and conglomerate, and abound with marine fossils. One of the chiefs of this village presented me with two fine fresh *Wapuku* (a species of *Gadus*, having close affinity with *G. morrhua*, Lin.), each weighing more than 20lbs. This fine fish is common on the New Zealand coasts; the natives having their marked spots for fishing, near rocks and shoals lying off the land in deep water, where they fish for the *Wapuku* with hook and line. These preserves are all “*rahut*,” i.e. private; and scrupulously descend from the chief to his nearest relatives. Any infringement on such a fishing preserve was invariably resented, and often ended in bloodshed. Before the

introduction of iron among the New Zealanders, [217] they used the tough forked branches of the Tanekaha (*Phyllocladus trichomanoides*), and Kahikatoa (*Leptospermum scoparium*), for hooks for this fish; which hooks are still used in many places. For bait, they preferred the flesh of the *Tarakiki* (a fish which migrates towards these coasts in large shoals in the summer), when in season, using at other times that of the crayfish. During my stay at this place, one of the heaviest hail showers fell that I ever witnessed. The hail were large and rhomboidal; the one-half (laterally) of each stone was composed of clear, and the other half of clouded, ice. The oldest natives spoke of only remembering one such shower.

Leaving Te Kawakawa, and travelling by the sea-side, I passed by several of the Taro (*Caladium esculentum*, Vent.) plantations of those natives. These plantations were in nice condition, and looked very neat; the plants being planted in quincunz order, and the ground strewed with white sand, with which the large pendulous dark-green and shield-shaped leaves of the young plants beautifully contrasted. Small screens, formed of the young branches of *Leptospermum scoparium*, to shelter the young plants from the violence of the northerly and easterly winds, intersected the ground in every direction. Of the Taro plant the natives possess two kinds (species?), *Taro maori* and *Taro hoia*; neither of which being indigenous, the former is supposed to have been introduced with the present race of natives, whilst the latter, as they themselves state, is quite of modern introduction.

On these shores, the clayey rocks had been so acted upon by the sea, as to be worn quite flat; in many places stretching out into a continuous horizontal layer of rock, of nearly a mile in length. On them grew a peculiar kind of large procumbent Algæ, which, boiled, is commonly used as an article of food by the natives of these parts; they call it Pareng. The Pohutukawa (*Metrosideros tomentosa*), here forms a thick and evergreen rampart between the sea-beach and the [218] main-land, their roots and trunks being often laved with the flowing tide. The wood of this tree is exceedingly hard, close grained, and heavy, and is much in request for knees in ship and boat building. It invariably inhabits the immediate sea-shore, often grotesquely hanging in an almost pendant manner from rocky cliffs and headlands, and, although of irregular growth, attains a large size. Here, in a clayey rock near high-water mark, the natives shew the impression of the foot of Rongokako, one of their illustrious progenitors; the print of his other foot, made in striding hence, being near Poverty Bay, a distance of more than fifty miles! Many marvellous exploits are related of this celebrated personage.<sup>102</sup> Near the East Cape I discovered, on a little sandy plain, a species of *Veronica*, a rambling shrub with large, oblong leaves, which to me was quite new. I did not, as on my former visit, go round the cape (a bold and high promontory composed of indurated clay, reclining back in solemn grandeur, on the face of

102 WC: It is, perhaps, worthy of remark, en passant, that such supposed impressions of footsteps are to be found in all countries. The writer has seen one in Cornwall, on the summit of a perpendicular and lofty crag, gravely asserted to be the last impress of his Satanic Majesty! None, however, has attained such celebrity as that on the summit of Adam's Peak, in Ceylon, of which a modern traveller states—“Boodhoo, when one foot rested on the Sree Pada (Adam's Peak), and left its impression there, stepped across to Makoona, situated, the priest gravely and seriously assured me, in Siam!!”

which, from the continual descent of debris from its summit and sides, nothing grows), it being nearly high-water; but, striking inland through a narrow sandy defile, emerged beyond it to the beach. The natives call this promontory Otiki; and the little islet off it, about half-a-mile from the shore, Te Wangaoeno. Rain coming on, I was quite willing to halt at Te Pito, a small village at the end of the long beach I had just passed, three miles S. of the East Cape. Here, however, on the side of a very steep hill, open to the South Pacific, which rolled its [219] immeasurable billows to our feet, both shelter and food were any thing but obtainable.

The next morning, the weather clearing, I resumed my journey. Ascending the precipitous hill before me, and entering a small wood, I discovered a slender tree of the *Melicrytus* genus, with very long lanceolate leaves, some of which measured 10 inches in length; making the third species of that genus hitherto found in these islands. The view from the rocky summit of this hill was most extensive, and very imposing. Here, on its peak, I gathered a specimen of a very narrow leaved *Veronica*, which may possibly prove to be a new species; unfortunately, it was neither in flower nor fruit. Descending this hill, and proceeding onwards, I found my new species of *Phormium*<sup>103</sup> (*P. Forsterianum*, *MSS.*, *ined.*) growing plentifully. On the clayey hills in this locality, I found a handsome *Pimelea*, a shrub 2-3 feet in height. Descending to the beach, through a deep and narrow slaty defile, I was rewarded with specimens of an elegant little monopetalous campanulate-flowered plant; a peculiar species of *Plantago*, with small leaves, which was quite new to me; and a plant of the *Myosotis* genus, probably *M. Forsterii*, *Endl.* This beach was long and stony, and very tedious walking, the inclination seaward being so great, and the loose stones of which it was composed having their angles washed round, or nearly so. Arriving at the embouchure of the Waiapu River, I turned inland by its northern bank, and proceeded up the valley of Waiapu. My route now lay through the bed of the river, a considerable part of which was at present dry, but in winter (judging from the appearance of the vegetation and stones about me) a mighty torrent. I noticed young trees of the *Edwardsia* genus being very plentiful here, but whether differing from the two already known New Zealand species, I could not, at this season, [220] determine. A *Carmichaelia*, too, was very common, which differed much in habit from *C. australis*, found in the neighbourhood of the Bay of Islands, not being rigid like that plant, and much more filiform, with drooping branches.

Approaching Rangitukia, a large village of the Ngati porou tribe, I was not a little amused and gratified, on observing a written notice addressed to me, fastened to a post by the path side, informing me that the people of the village, who had heard of my arrival, were at their work in their plantations at some distance, and would not return till evening; directing me, also, to the house which I was to occupy, &c. This writing was etched, as it were, with a nail on a leaf of *Phormium tenax*—a common mode of graphical communication among the New Zealanders, when not in possession of paper; and in which they, unknowingly, imitate those nations from whom, doubtless, they are descended. At this village, where the natives are very numerous, I remained a few days, but had scarcely time or

opportunity to eat or rest. During my stay, however, I succeeded in procuring several fossil bones of the *Moa*.<sup>104</sup>

On the 29th, I left this hospitable village, and proceeded, as before, up the dry bed of the river. I had, on my former visit, obtained specimens of basanite, siliceous schistus, sulphuret of iron, opal, &c. &c., from this locality; on this occasion, my collection of insects was large and curious, embracing individuals of different genera of the family *Arachnidae*, which are here both large and numerous. Many of these insects often carry their strong and glutinous webs across the pathway; with which, if you happen to be at the head of the file, your face coming in contact, causes you suddenly to halt, to the detriment of your heels, and the disarrangement of the whole line of march. The largest *Cicadæ* and *Libellulæ* are often seen entangled in those webs, [221] and seized by their ruthless and powerful enemy. I also secured various species of the genera, *Vespa*, *Thynnus*, *Coccinella*, *Mantis*, *Forficula*, and *Dytiscus*, and of others quite unknown to me; several of which, are doubtless new to science. I could but remark, that in many of them their colour was assimilated to that of the plant on which they lived—a beautiful display of the Divine Wisdom, by which many of His smaller and stationary creatures are the better enabled to elude the unceasing depredations of their ever-vigilant and rapacious enemies.

"Where space exists, Thine eyes of mercy see,—  
Creation lives, and moves, and breathes in Thee!"

On the immediate banks of the river, I discovered a new and peculiar species of *Rubus*; an almost leafless shrub, having only here and there at the extremities of its youngest branches, a small compound leaf of three leaflets. It was about five feet high, branches very long, filiform, and much entangled; in colour, a beautiful light green, thickly studded with orange-coloured prickles. The natives, who accompanied me, assured me that it bore red fruit in the winter, on which the birds fed. I could not, however, find a vestige of either flower or fruit. Here also I discovered two small cæspitose plants of the natural order *Compositaceæ*, called by the natives, *Papapa*; together with two species of *Epilobium*, which were new to me. This valley abounds in grass, and possesses a rich alluvial soil; slate, of a coarse quality, shows itself in large quantities towards its upper end. I soon arrived at Wakawitira, belonging to the Nagatiporou tribe, one of the largest native towns in New Zealand, containing, when all are assembled, from 3 to 4,000 souls. This village is not far from the celebrated mountain Hikurangi; an eminence belonging to the chain of mountains, which take their rise at the East Cape, and continue on to Wellington, Cook's Straits, and which were denominated by Cook, "the Southern Alps." [222]

I remained at this village a day or two, and could but contrast with thankfulness, the wonderful change, outward at least, which had taken place in the people of this district, since my former visit with the Rev. (now Archdeacon) W. Williams, in 1838. Then, the inhabitants were living in the grossest darkness of heathenism; none knew how to read—none knew anything of an hereafter: now, nearly 700 persons assembled for service in the chapel of this village, a building which, they had themselves built of the bark of the Totara tree (*Podocarpus? Totarra Don.*), measuring nearly 80 feet by 40; while in the school, after morning prayers, I had, 1st class, readers in the New Testament, 77; 2nd ditto,

103 WC: I intend, at some future day, giving a descriptive account of this very elegant and useful, and very distinct, species of *Phormium*.

104 WC: Vide Tasmanian Journal, vol. ii, p. 81, for an account of, and remarks on, the *Moa*.

readers who required prompting, 92; 3rd ditto, 128; 4th ditto, rehearsers of catechisms, &c. 240; and infants, 98—making a total at school, on a week-day, when numbers were absent at their plantations, of 635 persons, of whom more than 100 could read well.

Early in the morning of the 1st December, I re-commenced my journey. I had proceeded but a few yards, ere I discovered a very pretty procumbent *Ranunculus*, with imparipinnate leaves. Two fine species of *Gramineæ*, which grew here on the river's banks, I also secured. Crossing the stream, which at the ford was not waist deep, I found a curious little *Lobelia*, growing in grassy spots. Here, also, that pretty little thyme-scented species of *Labiateæ*, *Micromeria Cunninghamii*, Benth., abounded. Leaving the grassy plains of Waiapu, and proceeding towards the sea, through a long winding and stony watercourse, I descended to the beach, without detecting any thing new by the way, save a few mosses. Continuing on by the shore for a few miles, I arrived at Wareponga, a small village close to the sea. In my way thither, I noticed the great quantities of whole timber which every where protruded from underneath, the cliffs, buried in some places under hills of earth from 20 to 50 feet in perpendicular height; a faithful testimony to the [223] convulsion which Nature must formerly have undergone in these parts. To all questions concerning this timber the natives invariably reply, "No te hurihangā wenua" i.e. caused by the overturning of the earth. In building of chapels, or good houses, throughout the district, the natives generally dig up the large trees out of the ground (which are mostly Totara), and, having split and smoothed them, use them for posts; the timber thus procured, is dark, somewhat of a chocolate colour, and has a very neat appearance.

Water, that indispensable refreshment to the dry and thirsty traveller, was rather scarce in this locality, being only observed here and there trickling from the cliffs. Underneath these drippings were small pools, and by their sides lay shells of the *Haliotis* genus, with which the passers-by drank, but not to their satisfaction; the water being strongly impregnated with some nauseous alkali, probably soda, the crystallized efflorescence of which lay deposited about.

From these cliffs the natives collect in large quantities the red oxide of iron, with which they make a coarse red pigment, much used in smearing their canoes, architraves of their chief's houses, and stores in which they keep their sweet potatoes, images,<sup>105</sup> carved work, mausoleums, sacred enclosures, and every article, in fact, which they may please to make sacred; red being invariably their sacred colour.<sup>106</sup>

105 WC: These images, like those of the Lares of the ancient Romans, appear to have been made in commendation of their ancestors; and may, I think, be not improperly classed as Lares domestici et familiares. It does not appear, however, that they were ever worshipped.

106 WC: Red, appears to have been a colour used for similar purposes from very ancient times. Herodotus states, that, "according to ancient custom, all ships were painted of a red colour (lib. iii. Thalia, s. 58); and, speaking of the inhabitants of Western Libya, he says— "The Ausenses stain their bodies with vermillion" (lib. iv. Melpomene, s. 191). From Pliny, we learn—"this (red) was much used by the Romans in his time as a paint, and formerly applied to sacred purposes (Nat. Hist., lib. xxxiii. c. 7.). The writer of the Apocryphal book of Wisdom, represents the carpenter fashioning a piece of wood into an image, laying it over with vermillion, and with paint colouring it red (ch. xii). And, in Holy Writ, Ezekiel, the prophet, reproving idolatry,

The [224] red pigment, with which they formerly anointed their hair and bodies, is of a finer quality, and is generally obtained by laying a quantity of fern fronds in some running chalybeate water, on which a fine ferruginous mud is speedily deposited; more fern is then laid, *stratum super stratum*, until they suppose they have a sufficient quantity, when the whole mass is taken out, the ferruginous particles collected, made up into balls, and baked for use. This fashion of anointing themselves with red, is, however, nearly obsolete; being only followed by a few of the old grandes of other days. Nothing can possibly present a more disgusting appearance, than a half naked haggard old New Zealand lady with dishevelled locks, who, hearing of your approach, has hastily poured the contents of her *rouge-pot* over her head and face! Such disgust is only surpassed, when such a being condescends to move out of her little enclosure to embrace and rub noses with the white man; an act, requiring no small degree of self-possession and gallantry, on the part of the obliged gentleman, quietly to receive. This red pigment they here call Takou, while among the northward tribes it is known by the name of Kokobé.

On the rocks near Wareponga, I observed a large species of red conical-shelled *Patella*, which sank the base of its shell considerably into the face of the rock on which it had fixed its residence; these rocks, as before, were composed of indurated clay. Here, too, I obtained some beautiful [225] specimens of fossil marine shells, imbedded in sand-stone; the stone itself being extremely hard. On the sandy shore, in front of the village, I detected a rambling *Clematis*, with ternate, coriaceous, and glabrous leaves, the lower half of each leaflet being greatly crenate. I believed this to be a new species (or, perhaps, a variety of *C. coriacea*, De Cand. *prodr.* 1. p. 5) but, unfortunately, lost my specimens which I brought away for examination.

During the whole night, there incessantly descended—

— " Whole sheets of sluicy rain,  
Suck'd by the spongy clouds from off the main;"

from which I was happy to take refuge in a native's little hut, which not being finished was far from being waterproof. Here, among the reeds with which the hut was lined, were myriads of small insects of the *Anobium?* genus, who most annoyingly kept up a continuous drumming and tickling all night. I tried to secure some of these gallant little serenaders, or at least to get them to keep the peace, but in vain. Morning however broke, and being fine, I continued my journey. After travelling for four miles over beaches, I arrived at Waapiro, a small village, whence I directed my course inland, over high and craggy hills. A short distance beyond Tapatahi, a village romantically perched on a high and perpendicular crag, I discovered a timber tree of the Natural Order *Corylaceæ*, from 30 to 60 feet in height, with small oval entire leaves, which may possibly be found to belong to the Linnaean genus *Fagus*. I had first noticed this plant, in this very locality, a few years before, but had not subsequently seen it in any of my wanderings, until I came

says— "Aholibah increased her idolatries; when she saw men pourtrayed upon the wall, images of the Chaldeans pourtrayed with vermillion" (ch. xxiii. 15). Whether this anciently-used red pigment was, in every case, obtained from native cinnabar, I have not the means of ascertaining; but, from the red oxide of iron being a substance very generally distributed throughout the world, I think there is plenty of room for supposing that such might, with some nations at least, be commonly used.

again to the same spot. I got a native to climb it, in order to procure me a branch, but was disappointed in not being able to procure good specimens. Proceeding onwards, I discovered two elegant species of *Epilobium*, a species of *Convolvulus*, with very small leaves; and a species of *Pittosporum*, which at first I took for *P. umbellatum*, Banks, but have [226] since determined it to be a distinct, and probably a new species, ranking between *P. crassifolium*, Banks, and *P. umbellatum*. Here, while resting on the turf, I noticed the great prevalence of smut (*Uredo*, sp.) in the common indigenous grasses; and also the great profusion of *Edwardsia microphylla*, which every where abounded. At the northern parts of the Island, this tree is by no means common, nor do I recollect ever having seen a single plant in any other locality, than close by the sides of rivers, and on headlands near the sea. A large erect species of *Ranunculus* I also found in this spot. Towards evening I brought up, in rain, at Te Ariuru, a large village in Tokomaru Bay; a spot, which, by the botanist, will ever be contemplated with the most pleasant association of feeling—for here it was that Sir Joseph Banks and Dr. Solander botanized, in October, 1769. This Bay was called Tegadoo, by Cook. I was obliged to remain at this village a day or two, in consequence of the very violent gale of wind and rain, which commenced on the night of my arrival, and which completely imprisoned me within the canvas-walls of my tent. On the ebbing, however, of the tide, I ventured to the rocks just below me, which, composed of a very hard stone, abounded with petrified marine fossils. In tumbling them over in the rain, I was rewarded with a truly elegant species of *Patella*, which, not finding described, I have named *P. Solandri*,<sup>107</sup> in commemoration of Dr. Solander.

On the morning of the 4th, I again resumed my journey. [227] My route being by the sea shore, and the sea in many places laving the bases of the clayey cliffs, together with the extreme wetness and slipperiness of almost every thing from the late heavy rains, made this day's travelling very unpleasant. At Motukaroro, the romantic and weather-worn S.E. headland of Tokomaru Bay, the colossal bones of a huge whale lay bleaching on the strand. A black and graceful species of *Hæmatopus*, with orange-coloured bill and legs, is common on these undisturbed shores. Their cry is very quick and shrill. These birds generally keep together in pairs; the plumage of the young ones is grey, with greyish bill and legs, totally unlike those of the parent bird. The natives call them Torea, and believe that this bird knows of an approaching storm, which he indicates by a difference in his note; crying, "Keria, keria" (dig, dig—i. e. shell-fish out of the sand, by the waves, as food for himself), before a storm, and "Tokia, tokia," after one. At 3 p.m., I passed Waihirere, a beautiful waterfall, which fell down a perpendicular sandstone cliff, the face of which, covered with mosses and ferns, appeared more than ordinarily lovely in this desolate and otherwise barren spot. I took a hasty glance at the vegetation, in hopes of finding somewhat new, but could not detect anything. I obtained, however, another

107 WC: PATELLA SOLANDRI; Shell, oval, anteriorly truncated, much depressed, faintly striated longitudinally, diaphanous, fragile, covered with a thin epidermis; inside, smooth, glossy; vertex, very much anteriorly inclined, sub-acute, produced, slightly recurved; margin, entire, obsoletely crenulated within; colour, bluish-green, concentrically streaked with brown, beautifully blotched, or tortuously undulated, with same colour towards margin; 5-7 lines long, 4-5 lines broad. Hab. Adhering to the wider side of large smooth stones; Tokomaru (Tegadoo) Bay, E. coast, N. Island, New Zealand. W.C. MS., ined.

distinct species of *Patella* from the rocks, in this day's journey. By sunset, I reached Anaura, a small village on the sea coast. Here, in the houses of the natives, a quantity of a thick succulent *Fucus* was hung up to dry, which they informed me they used as an article of food, mixing it with the expressed juice of Tupakihe (*Coriaria Sarmentosa*, Forst.), to give it consistency. This *Fucus* they called Rimurapa. I noticed the beautiful little glossy Cuckoo (*Cuculus lucidus*), as being very abundant in this neighbourhood. This handsome bird is migratory, only remaining about three or four months in New Zealand; but where it goes to in the winter has not yet been ascertained. The natives—knowing that it left their [228] country, and not being aware of the proximity of any land to which it could resort, nor of the powers of flight of which a bird is capable—asserted that it spent its winter on a whale's back! Like the European cuckoos, it changes its note in about a month after its arrival, which, to the New Zealander, is very pleasing, being his assured sign of summer. It is a bold bird, coming frequently into gardens in search of insects. By the natives of these parts it is called Koekoeä; but, by the northern tribes, Pipiwarauroa.

Leaving Anaura, and striking inland, I ascended some steep hills, on whose summits I noticed several fine trees of the *Trophis* genus (*T. opaca?* Sol.); none, however, possessing either flower or fruit. Passed some clumps of Kahikatea (*Dacrydium excelsum*) this day; the land about being swampy, rushy, and very poor. Secured some fine specimens of the genus *Epilobium*, and two new ferns, *Polypodium sylvaticum*, and *Davallia Novæ-Zealandiae*,<sup>108</sup> which grew here, beneath the forest's shade. Arriving at the banks of the river Uawa, at present a muddy rapid stream, swollen greatly through the late rains, I noticed a *Lobelia* (probably, *L. angulata*, Forst.), and a species of *Violaceæ* (*Erpetion?* Don.), growing thickly on its banks. After some little time spent in fording the stream (which I managed to do with the assistance of some strong natives), I continued my journey until I arrived at Mangatuna, a small village, where, on the pressing solicitation of the chief, I consented to spend the night. Here, I found an old blind chief, who, for a time, valiantly defended the native superstitions. Our discussion, which was not a little animated, engrossed the attention of the by-standers. This old man, whose name was Hakahaka, also stated, that he recollects Cook's visit in 1769, although he was but a very little boy then. From this village, [229] recrossing the Uawa twice, I proceeded over rich alluvial plains, which form its banks to the sea-side; obtaining a few small plants by the way, which were new to me. At 2 p.m. I reached Honurora, a large village on the sea coast, at the mouth of the Uawa river. This river has a bar at its mouth, but small vessels of 20 to 40 tons can come in, and lay quite alongside of the village. Such have entered, but the master of one of them informed me, that it is an utter impossibility to remain in the river during a fresh occasioned by heavy rains in the winter season.

This bay, or rather open roadstead, is the Tolaga Bay of our illustrious circumnavigator, Cook. Here, his ships were at an anchor in October, 1769; here it was, that the first of those elegant trees, *Knightia excelsa*, Brown, was seen, and the first New Zealand Palm (*Areca sapida*, Sol.) cut down for the sake of its edible top. Here, too, near the S.E. headland of the bay, Cook dug a well, for the supplying of his ships

108 WC: Vide, "Filices Novæ. A Classification, &c.," Tasmanian Journal. Vol. ii, p.161, for a description of these ferns, and of several other new species discovered in this excursion.

with water; which well is shown at this day by the natives, to the curious "white man" travelling this way.

The native-built chapel at this village, though not so large as some which I had lately seen, is well worthy of notice. Without, it is a plain building, 34 feet long by 24 feet wide, and nearly 20 feet to the roof. Within, however, it has an elegant appearance, being very neatly reed with the long slender culms of *Arundo australis*, closely placed and firmly fastened on the outer wall, composed of flat bundles of *Typha angustifolia*. The broad posts, or rather pilasters, are of the dark and almost fossil Totara already mentioned, cut and smoothed nicely with a little adze, without the help of a plane; whilst, upon and across the reeds in the interstices between the posts, narrow black and red wands of thin slips of wood are alternately disposed at regular distances, each being continuously and doubly bound, in the shape of a St. Andrew's cross, with very narrow strips of the white fibres of *Freycinetia Banksii*. [230]

On the morning of the 9th, I once more recommenced my journey, crossing the Uawa at its mouth in a canoe. At first my route lay inland, but I soon found I had to descend again to the sea coast. In descending a high hill near the sea, I was gratified and rewarded, in discovering an elegant little *Arthropodium* in flower. This very distinct species, only 6-9 inches high, I only detected in this locality, although I sought it assiduously throughout the remainder of my journey. Close by it, a fine shrubby *Pimelea* flourished. A very shy and peculiar bird, closely allied to the cuckoo tribe (perhaps a species of *Eudynamys*) was to be met with in these parts. This bird has a remarkably attenuated body and tail, with a silvery spotted plumage, and a very sweet note. I have heard it, occasionally, in the middle of the night; the natives call it, Kohaperoa.<sup>109</sup> Proceeding on, over long sandy beaches, I was soon overtaken with rain, from which I endeavoured to shelter under some fine trees of *Corynocarpus laevigatus*, Forst., which often grow in clumps near the shore; but the rain continuing, I was obliged to proceed. From some natives whom I met I obtained a basket of fresh *Haliotes*, the black fish of which, my baggage bearers ate raw with great zest. On their shells I found a peculiar little *Patella*, identical with a species discovered by Dr. Joseph Hooker, at Auckland Island.<sup>110</sup> At 4 p.m., we arrived at Parinuiotera, the high bluff promontory commonly known, from its appearance at sea, by the not inappropriate, though quite unclassical, cognomen of Gable-end foreland. This remarkable headland, of not less than 200 feet in perpendicular height, is entirely composed of white indurated clay, on whose face and sides grew not so much as a single moss or lichen, from the continual crumbling down of the clay of which it is composed. Here, in the pelting rain beneath this towering [231] crag, where we could scarcely stand on our feet, owing to the extreme slipperiness of the clayey rocks, we found that the tide had not sufficiently receded to allow of our passing onwards without hazard. As, however, the evening was drawing on, and we had still some distance to travel ere we should meet with either food or shelter, we

<sup>109</sup> WC: W. Yate (An Account of New Zealand, 1835, p.65) used this word for the longtailed cuckoo, as have others since—but it does not have an "attenuated body and tail", nor could its harsh screech be called a "very sweet note".

<sup>110</sup> WC: Both the botany and conchology of Auckland Island, appears not only to be closely allied to those of the New Zealand grouse, but to consist of the very same genera, and, in many instances, the same species.

were necessitated to make the attempt. Scrambling, in some places, on all-fours like a cat, and upborne in others by my faithful natives, I rounded this cape through the breakers (passing under a natural archway in the rocky cliff), and got in safety to the other side. Continuing my march, I collected several species of *Algae*, which were new to me. At sunset we arrived, wet, cold, and hungry, at Pakarae, a small village containing about twelve persons; who, according to their custom, heartily welcomed us, although, as we subsequently found, they had not a scrap of food to give us! The old chief kindly pulled up three stakes from the fence of his little city (for trees there were none in this neighbourhood), as tent-poles for my tent; and presented me with a dead cray-fish, which I was happy enough to obtain and divide among six of my party (including myself) as a substitute for supper. The next morning I started early (having procured a basket of sweet potatoes for breakfast, which were fetched during the night from some distance), travelling, as yesterday, by the seaside. At 2 p.m. my party halted to roast a few potatoes for our dinner, which afforded me an opportunity of straying about a little; in doing so, I was fortunate enough to find *Euphrasia cuneata* in flower, which was abundant hereabouts on the low clayey cliffs; and three plants of *Compositaceæ* which were new to me; one of which, a curious little one-flowered plant, was covered with a thick viscid substance, which exuded from its glandular pores. Here, also, procumbent on the sand, I found a small plant, in habit and general appearance somewhat resembling *Tetragonia expansa*, but differing widely in its fruit, its berries being large, succulent, pimpled, and dewy, and filled with a carmine-coloured juice. [232] This juice is used by the natives of these parts in writing, as a substitute for ink; but, like most other simple vegetable dyes, is very evanescent. The natives call the plant Kokihi. A small straggling procumbent plant, which at first sight I supposed to be *Anchusa spathulata*, Roem., also grew here; but that plant is described as possessing "foliis ovatis obtusis," which this one has not; to that natural order, however, it belongs. The summons being given, to dine and march, I obeyed; and, leaving the seaside, struck inland, over low sand-hills and through a long swamp of *Phormium*. About 5 p.m. I reached the river at Turangunui, a village in the inner N.W. angle of Poverty Bay Crossing the river in a canoe, I made the best of my way to Kaupapa, a church-mission station, where Archdeacon Williams resides. This place I reached at 7 p.m., quite tired. The very hospitable reception, however, which we all received from the Archdeacon, went far towards causing us to forget the toils of the journey

I may here remark, that the White Mangrove (*Avicennia resinifera*, Forst., *A. tomentosa?* Linn.), so very common in salt water creeks and marshes in the northern parts of the island, was not seen anywhere on this line of coast. The natives say, that it does not grow in these parts; their name for this tree, is Manawa.

At Poverty Bay I remained several days, and during my stay obtained specimens of several new and little known plants; among which I may notice—a fine spiny shrub of the Natural Order *Rhamnaceæ* (probably of the genus *Discaria*, Hook.), which grows plentifully here in the alluvial plains on the banks of the river. It attains the height of 2-4 feet, and will, doubtless, make an admirable fence. The natives give this plant the expressive name of Tamatakuru, i.e. Standing-face-beater.—A very lovely and fine moss, with large membranaceous leaves;—a one-flowered *Compositaceous* plant, possessing an elegant coloured and

imbricated involucre ;—and a curious minute *Lemna*-like floating plant, were among the number of my spoils. I was rather surprised [233] to find the Ngaio (*Myoporum laetum*, Forst.) growing very commonly here as a small forest tree, with a straightness and height unknown in the northern parts of the island. In the Bay of Islands, and adjacent districts, *M. laetum* is an irregular growing shrub, or *small tree*, and *only found* in the immediate neighbourhood of the sea, there, too, its wood as so small, as not to be of any use, and is not even collected for the purpose of firing; whilst, here, the tree attains the height of 30-35 feet, and its wood is very commonly used by the natives for posts, poles, rafters, &c.

On the morning of December 20th, I once more recommenced my journey, directing my course, for the first time, directly into the interior. Proceeding up Turanga valley by the river's banks, over alluvial and grassy plains (sure indication that the whole of this ground had at some period been cultivated by the natives, who are very numerous in this district), I reached the forests at the base of the first high range of hills by 2 p.m. In my way thither, I observed another fine plant of that unique and leafless *Rubus*, which I discovered in Waiapu valley, much, however, in a similar state. Here, I obtained a tall and new species of Compositaceæ;—a *Viola*, which grew plentifully on the river's banks, though not in flower;—and an elegant membranaceous-leaved fern (*Lomaria rotundifolia*, n.sp. W.C.). In pools, in marshy grounds, I discovered a fine aquatic *Ranunculus*, with very long and fistulous petioles, nearly as stout as the barrel of a goose quill. On the clayey hills, and generally in dry elevated spots, I obtained specimens of two plants, possessing a very Aster-like appearance, and which may probably prove to be species of *Celmisia*. Ascending a hill, I discovered a plant with copious verticillate inflorescence, large sub-rotund leaves, and long succulent petioles. Most unfortunately I could not find a specimen possessing either flowers or seeds, although I sought most assiduously for such. It must have flowered very early in the season, as both carpels and peduncles in [234] every specimen were quite withered. Some flower-stalks were from 12 to 20 inches in height.<sup>111</sup> From a barren hill in this locality I obtained a *Lycopodium*, which I had not before noticed; together with a few mosses. From these heights the prospect is most extensive. Beneath me, as a panorama, was Poverty Bay, with its romantic headlands; while far away to the left, Hikurangi (the mountain near Waiapu) hid his venerable head in clouds. The atmosphere, however, was so filled with smoke, arising from the fern which was burning furiously to windward, that it was only with difficulty that I discerned a single distant object. Continuing my march till near sun-set, I halted for the night by the side of a small stream in a desolate wild, called by the natives, Tapatapauma. Here, several species of the genus *Epilobium* flourished luxuriantly, of which I secured specimens. The sides of the rivulet were ornamented with fine plants of a species of large-leaved ? *Fagus*, which I believe to be quite distinct from a closely allied species

111 WC: Since penning the above, I am happy in being able to add, that I have obtained (subsequent to my return to the Bay of Islands) fine living specimens of this plant, through sending a native from Turanga to procure some roots. These have flowered since they have been in my possession. Its corolla is monopetalous, labiate and quinquefid, with didynamous stamens, and superior unilocular ovary. It may probably rank under the Natural Order Cyrtandraceæ; which order has, hitherto, been only represented in New Zealand by a solitary species

discovered by me at Wangarei, in 1839.<sup>112</sup> I think, however, that both of these species will be found to possess affinity with *Fagus Cunninghamii*, Hook., a species found in Van Diemen's Land. [235]<sup>113</sup>

THE next morning I resumed my journey. Gaining the summit of the hill before me, I had an extensive view of the interior. Hill rose on hill (Pelion on Ossa) in continuous succession, as far as the eye could reach. To the left, was Wakapunake (the fabled residence of the gigantic *Moa*), an immense table-topped hill, or rather mountain; while to the right, far away in the distance, a peculiarly precipitous mountain cast its bold outline in fine relief into the sky; this, my native guide informed me, was Waikare, to which place we were going. Time, however, would not permit a lengthened gaze, so, descending the hill, I proceeded on. Here, [242] among the short tufty grass, I detected a pretty little *Ophioglossum*, which apparently differed from those already noticed by A. Cunningham. Here, too, I first gathered that very graceful fern, *Lomaria linearis* (n.sp., W.C.), which grew rather abundantly in one spot in these grassy dells. On the dry and barren summit of a high hill, I procured a peculiar little cæspitose *Composita* and secured for examination a specimen of *Leptospermum*, which appeared to be new. In this neighbourhood I discovered a new and very distinct species of *Coriaria*; an elegant procumbent plant, with undulated and sub-membranaceous ovate-acuminate leaves. It seldom rises above two feet in height, and is mostly found quite prostrate, and very abundant; disputing the possession of the soil with those very common occupiers, *Pteris esculenta* and *Leptospermum Scoparium*. Among the fern it has a strikingly peculiar appearance; and, at first sight, might almost be taken for a gigantic foliaceous Lichen overspreading the surface of the ground. I did myself the pleasure of naming this species *C. Kingiana*, in honour of my much respected friend, Captain P.P. King, R.N.; and was fortunate enough in procuring good specimens in flower and fruit. At Hopekoko, a small stream (where we rested awhile to dine on roasted potatoes), the bed of which, at the ford, was one flat block of sand-stone, I procured specimens of a little *Restiaceous* plant, and a *Hydrocotyle*. Having feasted with most hearty zest on our roast, and fallen into marching order, I soon arrived at a small cataract, down which the water fell perpendicularly about twenty feet, into a deep and dark basin. The only ford at this place was on the very edge of the fall (composed of a single mass of rock), over which I was [243] obliged to be carried, not daring to trust myself on that perilous and slippery path, which reminded me of *Al araf*, the bridge to the Mahometan Elysium. As it was, I very nearly fell, through nervous excitation, into the depth below. In this neighbourhood I detected another small *Lomaria* (*L. deflexa*, n.sp., W.C.), together with a small *Compositaceous* plant, for which I had been some time looking out, having before seen its foliage. Passing through a deep swamp, I hastily snatched specimens of several plants, which appeared to be different species

112 WC: The leaves of the species of *Fagus* detected at Wangarei, are, ovato-cordate, serrate nearly to base, truncate, sub-tridentate, serratures in each leaf 15–21, petioles slightly villous, leaves larger and broader than in the species found at Tapatapauma; which are, rhombic-ovate, upper half of leaf serrate or sub-laciniate, much more truncate, tridentate, and attenuated at base, serratures acuminate or mucronate, 11–13 in each leaf, petioles and whole upper surface of leaf, tomentose.—W.C., MSS., ined.

113 WC: The first part ends in Vol. II. No. viii, p.235; the second part begins in No. ix, p.241.

from those I had hitherto obtained, for examination. About sun-set we arrived at the banks of the river Wangaroa (one of the principal branches of the river Wairoa, which disembogues into Hawke's Bay); here I obtained two canoes from the natives, and paddled down the river about 2 miles to Te Reinga, the principal village of this district. This river winds round the enormous hill, Wakapunake, at the base of which the village is situated. I had often heard from time to time from the natives, of this place, and of the abyss-like cataract in its immediate vicinity, and had long cherished a hope of one day visiting it. Tired as I now was, I wished for morning that I might realize my desire, and gain a few more additions to the New Zealand Flora. The roar of the waters during the stillness of the night, had much that was soothing as well as solemn in the sound. Morning broke, and, prayers and breakfast over, I entered into a little canoe and paddled about 200 yards to the bed of rock, which, crossing the river, dams up the water and causes the fall. This cataract, from its situation, is exceedingly romantic; the most so, I think, of any fall I have yet seen in New Zealand. The bed of rock, or rather [244] deposit of indurated clay sand and mud of a very white colour, which here obstructs the progress of the river (and through a narrow pass in which the water rushes) is filled with marine shells in a fossil state; although at a great distance from the sea, and at a very great height above its present level. This bed of white rock is large, being not less than 200 feet in width; and, when the river is swollen by the winter's rains, surrounded as it is by high and densely wooded hills, the fall must present a very imposing appearance. I gained several specimens of shells, Uni- Bi- and Multivalve, by digging them out of the rock with my hatchet. Among them were specimens of the genera, *Terebratula*,<sup>114</sup> *Vo—luta*, *Pecten*, *Lepas*, and others at present unknown to me. The waters fell from rock to rock three several times, ere they were swallowed up in the dark eddying gulph below. The deep gloom of the river in the gorge beneath—the different hues of the dense masses of foliage on either side—the sun-beams peering downwards through the tops of the trees—the enormous bed of rock above, as white as snow—the natives, who accompanied me, perched here and there upon the same—and the little village in the back-ground, combined together [245] to cause an enchanting and undescribable scene, possessing powerful effect. In the height only of the fall, was I disappointed. I attempted a hurried sketch, but could not do the scene before me justice; in fact, I had too many things to do at once, consequently I did nothing well. I wished, afterwards, when it was too late, that I had remained a day at this place, instead of passing on post-haste in the manner I did. I just glanced at the vegetation here, and obtained some specimens of white-flowered *Gnaphalium*, with very narrow linear leaves, which I had not before seen. Returning to the village, and

114 WC: TEREBRATULA TAYLORIANA (Fossil.). Shell ovate, ventricose, very solid, smooth, concentrically and absolutely striated, lamellar; margin, apparently entire; summit of larger valve much produced, arcuated, subdeflexed, thick, very truncate; perforation large; horn, or light mouse-coloured; length, 2½ inches; breadth, 1½ inches.

Hab. In a mass of indurated deposit of sand and mud, forming the cataract on the river Wangaroa, at the base of the mountain Wakapunake, near Hawke's Bay, E. coast, N. Island of New Zealand. W.C. MSS. ined.

Obs. This fine species of former days has been named after the Rev. R. Taylor, of Waimate, New Zealand; whose assiduity in both geological and conchological research is too well known to require comment.

obtaining, though with great difficulty, guides and baggage-bearers to Waikare, I again resumed my journey. Paddling up another branch of the river, named Ruakituri, for about a mile, we landed on the left bank. The sun was intensely powerful, not a zephyr playing, nor a cloud in the air, nor a tree nor bush, which could afford a shade, anywhere at hand. Through unfrequented paths (if paths, such could be termed), up and down steep hills, overgrown with young fern (*Pteris esculenta*), which at this season is peculiarly disagreeable from the clouds of fine yellow dust with which it is loaded, and which, inhaled at every breadth, causes you incessantly to sneeze, we travelled until 3 p.m., many times halting by the way. Oh! how often and how truly this day, might I have exclaimed, with the poet—

“All-conquering heat, oh intermit thy wrath!  
And on my throbbing temples potent thus  
Beam not so fierce! ——————

—————In vain I sigh,  
And restless turn, and look around for night;  
Night is far off and hotter hours approach.”

*Thoms. Seas., Sum. [246]*

Having roasted a few potatoes, on which we dined, I endeavoured to cheer my companions in travel, but to little purpose Re-commencing, however, our Journey, we continued our march, through want of water, until long after sunset. Fortunately, I succeeded in finding some, by the side of which, in the wilderness, we encamped—all too fatigued to care much about anything save rest. Gained nothing new in the whole of this melting day's horrid march; fern, fern—nothing but dry, dusty fern, all around! I gathered somewhere, in the course of the day, a diseased branch of *Haxtonia furfuracea*, which was curiously distorted, and surrounded with several cells of almost a regular hexagonal shape, probably caused by the punctures of insects. I have often noticed such deformities in various plants, but, as far as I recollect, I never saw it so regular or so large before. A river, the bed of which we descended into and crossed, ran at the depth of from 30- to 80 feet below the surface of the soil on either side. A coarse slate, and thinly stratified sand-stone, formed its bed.

The next morning at a very early hour we arose, and, with stiff and unwilling limbs, proceeded onwards. Want of food, in great measure impelled us forward, as we had yesterday been led to suppose, that we should reach the next village by night. After three long hours spent in active exertion, we reached Wataroa, a small village, where we were heartily welcomed. Having breakfasted and rested awhile, we left this village, and continued our march, which, as yesterday, lay over high hills, which rose in perpetual succession before us, appearing as if they were without valleys between. The country, as we progressed into the interior, became more and more barren; a scanty vegetation of stunted [247] *Pteris esculenta*, *Leptospermum scoparium*, *Leucopogon Fraserii*, and such plants, alone existed on these dry and sterile spots; save where, in the deep glens between the hills, a clump of wood was to be found, shewing their heads of foliage here and there like Oases in the desert. The soil was dry and dusty, and principally composed of broken pumice. Towards evening, from the crest of one very high hill, I had, in looking back, a splendid, though distant, prospect of Hawke's Bay, and the high and rugged land bounding the same. On the top of this hill I obtained specimens of a small tree, a species of ? *Weinmannia*; a few stunted plants of which were here scattered about. My native guides assured me, that no person could keep his footing on this elevated spot when the

south wind blows; an assertion, which the denuded and bare aspect of the place, together with the very stunted appearance of the few trees and shrubs on it, seemed fully to corroborate. Bivouacked for the night at Wakamarino, a little village on the banks of a small river.

Early the next morning I re-commenced my march towards Waikare Lake, the old chief of Wakamarino accompanying me. An hour's walking brought me to Waikare taheke, a rapid stream of about four feet deep, caused by the exit of the waters of the lake towards the sea, and which here most outrageously tumbled over a long and sloping bed of rock. A bridge of trees (and one of the best constructed native bridges I have ever seen) was thrown across the foaming torrent, which, though strongly secured together, seemed as if every rush of the bounding water would carry it away. A nervous person would scarcely have hazarded himself on such a vibrating and precarious footing. The beauty [248] of the spot riveted my attention for a few moments, and I almost determined to venture on a sketch. I gathered a handsome moss in this place; and, a little further on a *Polyodium* (*P. viscidum*, *n.sp.*, W.C.), every frond of which was more or less covered with pappus, downy seeds, and other such light substances, blown by the winds. We soon arrived at the village, situated on a high headland jutting into the N. side of the lake. The gateway was, as is often the case, embellished with a pair of huge and hideous clumsily carved figures, besmeared with red pigment, armed with spears, and grinning defiance on all comers. The wind now blew so very strong, that it was not possible to cross the lake in such frail canoes as this people had at command, so I was obliged to pitch my tent here, although it was not an easy matter to find a place suitable, owing to the very great unevenness of the ground, its unsheltered situation, and the very high wind. Here, I was confined a prisoner until the morning of the 29th, when the wind lessening I made my escape, and crossed in safety to the opposite shore. Whilst detained, however, I made the most of my time, and was amply rewarded with specimens of new plants. And, first, I will notice another beautiful species of ? *Fagus*, with small, broad, adpressed, coriaceous, and bi-serrate leaves, which grew plentifully in the immediate vicinity of the lake, and possesses, especially in its young state, most elegant foliage. Unfortunately, however, I could not find a single flowering specimen, although I carefully sought for such, and hired natives to climb the trees in search of the same. A few capsules of the preceding year were all I could procure. The natives wished me to believe, that this tree did not bear fruit every year, and they [249] had also remarked, that when this tree bore fruit other trees did not! It grows from 30 to 50 feet in height, and is not so robust as the large-leaved species; the natives call it Tawai. Here, also, the small oval-leaved species grew abundantly, attaining to a considerable size and height. A graceful shrub of the Order *Compositaceæ*, with sub-orbicular leaves and sub-sheathing petioles, I found near the edge of the lake. This shrub grows in rather a diffuse manner, and is from two to three feet in height.<sup>115</sup> On the sand-stone rocks, I found a beautiful minute *Lobelia*; a perfect little gem! scarcely an inch in height. It was scarce, and grew where it could only have been nourished by the spray and waves of the lake. Among these rocks, I also found a species of *Plantago*, with long lanceolate leaves; and a fine *Hydrocotyle*. Just above,

115 WC: I am much gratified, in having a fine young plant of this very graceful shrub now living, from seed sowed by me, on my return from my journey.

on the banks, I detected a peculiar ?*Araliaceous* tree, which was common here; it grew in a straggling manner to the height of 25-30 feet. A large and new species of *Coprosma*, a small tree from 10 to 14 feet high, I also obtained good specimens of. Rummaging about among the dry and more elevated rocks (which lay piled in enormous masses on each other), I found an elegant little fern (*Asplenium Colensi*, *n.sp.*); and, on the top of the little promontory on which the village was situated, I discovered a very handsome *Dicksonia* (*D. lanata*, *n.sp.* W.C.). This graceful fern was abundant in this locality; some of its fronds were from 24 to 30 inches in length. Had I not been very anxious to prosecute my journey, I might have spent a very agreeable time at this romantic and [250] interesting place. Such, however, was not the case; the people among whom I now was, had scarcely at this season any food for their own use, and, although they exerted themselves to the utmost in their endeavours to be hospitable towards me and my party, they could only allow us two scanty meals of roots and herbs per diem.

Although at this season, harvest was about commencing in the more northerly parts of the island, here, in these elevated spots, it was so cold, that I was often obliged to keep on my cloak, or walk briskly about to keep myself warm. The natives assured me, that the snow lay many feet deep on these hills in the winter; and that in such seasons they kept within their houses. Their houses are large and warm, and curiously constructed to keep out the severity of the winter's cold; being built over a large pit, or trench, the fill size of the house. Thus a house, which on the outside appears to be only three or four feet high, is, when you descend into it, from five to seven feet in height.

I obtained from the lake some fine, specimens of *Unio*,<sup>116</sup> the only living thing (according to the natives) found within its waters. I supposed this sheet of water to be about six miles in diameter; but could only guess [251] as to its probable size, from its very irregular shape. The lake is very deep and clear, and the bottom rocky.

A peculiar sea-bird, called by the natives Títí, and which often flies irregularly at night, making a noise resembling, Tee-tee-tee-tee, rapidly uttered (whence its name), is sometimes taken here in large numbers. From the natives' account, it should appear, that these birds resort, at certain times, to the tops of the highest and barriest hills, where the natives assemble and make fires on foggy calm nights, which fires decoying the birds thither, they are easily taken with nets. I have often heard this bird at night, but have never seen one. It is, I think, highly probable, that they may belong to the genus *Procellaria*.

On the morning of the 29th, the wind lessening, we hazarded a passage, and crossed in safety to the opposite side. The "ever-changing" woodland scenery appeared most lovely, as we, in our little canoes, wound round the bases of

116 WC: UNIO WAIKARENSE; Shell, oblong or oblong-ovate, concentrically and irregularly sulcated, sub-diaphanous, inflated; anterior side produced, obtuse, slightly compressed; posterior slope keeled, sharp; base, slightly depressed; umbones decorticated, flattish, much worn; primary tooth, large, crested; epidermis, strong, overlapping at margin, wrinkled on anterior slope; colour, brownish-yellow on posterior side, shading into dusky green on anterior, with alternate light-coloured lateral stripes; 8 inches broad, 21 inches long.  
Hab. Waikare Lake, mountains, interior of the N. Island of New Zealand.—W.C. MSS. ined.

these everlasting hills. Here, for the first time, away from the immediate sea-coast, I noticed the littoral species of *Metrosideros* (*M. tomentosa*, *A. Cunn.*). It grew, however, in similar rocky situations, close to the water's edge, and after the same very diffuse manner. Parasitical on its branches, in great abundance, flourished *Loranthus tetrapetalus*, *Forst.*, gorgeously displaying its profusion of scarlet blossoms. On getting into shallower water, I obtained specimens of a graceful *Myriophyllum*, which was attached to the bottom of the lake, and grew under water to the length of several feet. We landed at the margin of a wood, the trees of which overhung the water; where, at the pressing request of the natives who lived near by, I consented to spend the remainder of the day and night. [252] As they did not, however, assemble together till near evening, I had a little time to botanize, and which, I trust, I fully used. It was, indeed, a lovely spot: that constant humidity, so requisite for the full development of the varied tribes of the Cryptogamic Family in all their beauty, was ever-present in these umbrageous solitudes. Commencing at the water's edge, I gathered specimens of a peculiar *Rumex*-like herbaceous plant, which grew within the water. Close by a small *Myrtaceous* shrub, clothed with *Lichens* and *Jungermanniae*, attracted my notice; this shrub attained to the height of seven feet. Several beautiful Mosses and *Jungermanniae*, next entered my vasculum. A beautiful foliaceous *Lichen* grew here on the trunks of living trees, having spherical black *sorediae* on its under surface, which appeared quite unique. Another fine species, bearing *scutellae* on the edges of its *thallus*, grew also on these trees. I here obtained fine specimens of *A. Cunningham's* new genus *Ixerba*; and, in doing so, almost dared to hope that I had gained a second species of this peculiar and handsome genus. This differs from *I. Brexioides*, *Cunningham's* plant, in its anthers being almost elliptical scarcely ovate, its twisted style, its larger corymbs containing 5-10 flowers, its lanceolate leaves shorter and broader, its much larger size, and robust habit, attaining the height of 40-50 feet, and being, too, one of the commonest trees of these woods.<sup>117</sup> [253] I also procured specimens of a *Coprosma*, a graceful shrub, 3-6 feet in height, with oblong-lanceolate leaves; a *Senecio*; a *Solidago*, which, from habit and general appearance, being only from 1 to 3 feet in height, appeared to be distinct from *S. arborescens*, *Forst.*; and a fine shrubby *Leptospermum*: these plants were all quite new to me. Here, also, I was so fortunate as to detect several new species of the beautiful genus *Hymenophyllum*. *H. Franklinianum*, a lovely climbing species, pendulous on living trees, whose trunks it completely clothes with the exuberance, of its fronds—*H. pulcherrimum*, an elegant and noble species, also epiphytical on trees in the darker recesses of the forest; this is one of the largest species yet found in New Zealand, some fronds measuring 15 inches in length—*H. spathulatum*, also a fine species, epiphytical on living trees overhanging the lake; this fern possesses a peculiar appearance, from having a number of black botryoidal masses on the edges of the segments of its frond, evidently caused by the punctures of some insect—*H. atrovirens*, a small dirty looking species, found on wet

stones in low shady humid spots—and *H. revolutum*, a small filiform species, epiphytical on reclining trees in damp places. A handsome species of *Polypodium*, apparently a variety of *P. Grammitidis*, *R. Brown*, but having its lobes deeply incised and sub-pinnatifid; and an elegant and new species of *Grammitis* (*G. ciliata*, *n.sp.*, *W.C.*). I also discovered in this locality. Several beautiful mosses, too, I gained during my short stay here; among which I was much pleased to find in fruit the very elegant species whose fronds I had before detected in a wood near Poverty Bay.

The next morning I resumed my journey [254] experiencing no little difficulty in the obtaining of a guide over the mountains, in which service I was obliged to enlist all my suasory powers. This point settled, we commenced ascending from the shores of the lake, passing through dense forests, chiefly composed of fine trees of *Podocarpus*, *Fagus*, and *Ixerba*. Having gained the summit of the range, we found travelling easy; for in these forests, where the broad-leaved *Fagus* is the principal tree, there is but little underwood. Indeed, plants generally seem as if they did not like the shade of these trees. One of the first things which attracted my attention this morning was a peculiar little hexandrous plant of climbing habit, with large and succulent white superior-berried fruit, terminal and solitary, with alternate linear-lanceolate leaves entire and mucronate, having parallel veins, laterally netted, which grew here and there at, the foot of large trees, wherever the light decaying vegetable mould was deepest. I sought assiduously for perfect specimens, and was at length rewarded with such in flower and fruit. This curious little plant has a most peculiar aspect, evidently constituting a remarkable link between endogens and exogens. To me, its affinities appear to rank it somewhere near the Natural Order *Smilaceae*. I have not, however, met with anything like it in New Zealand. Some small shrubs I noticed having the habit of *Myrsine*, but could not detect, them in flower or fruit. My peering about was eventually rewarded with a new terrestrial *Orchis*, a pretty little plant with a single leaf, bearing a long one-flowered scape; it grew singly about the bases of large trees, and, appeared to be scarce. The natives told us, before we started, that we might expect rain on these mountains (they having a proverb [255] to the effect that it is never dry in these parts), and so, indeed, it came to pass. After we had proceeded for about two hours, it began to pour down in torrents; no shelter being at hand we were obliged to continue on in the cold and pelting rain. I much regretted the state of the weather, as I had every reason to expect many new and rare plants in these elevated regions. The trees and shrubs, large and small, were all beautifully festooned and draped with *Jungermanniae* and *Musci*, as if done with fairy fingers; evidencing the eternal humidity of these forests. The family of *Filices*, too, presented the most lovely spectacle, this day, I ever witnessed. In these deeply-shaded recesses, my enchanting *Totdea superba*, and graceful *Lomaria rotundifolia*, flourished in perfection; the densely-crowded and dark green fronds of the former, contrasting so beautifully with the light-coloured, elegant and membranaceous ones of the latter. The fronds of these ferns were grouped in ever-living circles of green, from five to six feet in diameter; many single fronds of either plant measuring upwards of three feet in length. With them grew two species of *Aspidium*; one, *A. pulcherrimum*, a truly fine plant, is one of the most lovely ferns in New Zealand. Many of its gracefully flaccid fronds measured upwards of four feet in length. The other, *A. Waikarensis*, is also a handsome fern, though smaller, and more rigid in its growth and habit

117 WC: IXERBA BREXIOIDES, Cunningham's plant, is, in these particulars, thus described by him:—"Anthera ovatae acuminatae. Stylus, 1, angulatus, continuus, versus apicem attenuatus. Flores, corymbosi, pedunculis (uncialibus) plerumque trichotomis. Folia, elongato-lanceolata acuminata, 4-5 uncialia." [5-6½, W.C.] "Arbor elegans viginti pedalis et infra. A tree of very rare occurrence."—A.C. in Ann. Nat. Hist. Vol. iii., p. 250.

than the preceding. Another new species of *Lomaria* (*L. latifolia*), I also found growing in these spots. Notwithstanding the warring of the elements, I gazed entranced upon these beautiful productions of Nature, and wished much to secure good specimens. I was obliged, however, under existing circumstances, to content myself with a [256] couple of specimens of each species, and these, too, hastily gathered and put up dripping wet, to the very great astonishment of my natives. Proceeding on, I found, in more open situations, a pretty little *Irideal* plant (perhaps *Libertia micrantha*, A. Cunn., or a n.sp.) growing most profusely, reminding me, in the distance, of the "daisied meads" of my father's land. Ascending still higher, in pelting rain, I discovered a handsome species of *Viola*, bearing a large white flower with orange-coloured throat, and very fragrant smell. I hastily removed this interesting plant from its mossy bed to the bosom of my cloak, now nearly as wet as the bank where it originally grew. Growing with it I found a small *Epilobium* with axillary inflorescence. I had fondly hoped to have fallen in with a specimen of that rare, and hitherto little known, bird, *Neomorpha crassirostris* (the Huia of the natives), in this locality; having understood that they were found in these parts. The name, too, of the mountain, Huiarau (i.e. hundred Huias), had not a little increased my expectations. I was, however, disappointed; the incessant rain preventing my seeing anything but what lay just before me. This bird only inhabits the mountainous districts of the southern part of this island. It is said to be small, black, and slender, its tail feathers being long and broad, tipped with white. These feathers are much valued by the natives, as ornaments for their hair. I obtained from Te Kaniatakirau, chief of Uawa, a Huia feather from his hair, on leaving that place. In this locality I secured specimens of several plants of the *Coprosma* genus, all small shrubs from three to five feet in height. A small divaricate shrub without fruit, but apparently a species of *Myrsine*; and a fine epiphytical [257] *Lycopodium*, with terminal spikes of fructification, attracted my attention; in habit and growth, this latter plant much resembles *L. Flagellaria*, Hook., of which species it may possibly prove a variety. A small aromatic-leaved tree, with black bark, apparently belonging to the Natural Order *Winteraceæ*, I also discovered, and got good specimens of. A beautiful and delicately white *Lichen*, here grew on the trees, causing, in some situations, a very striking effect. The densely wooded mountains over which I this day passed, were chiefly composed of sand-stone, which shewed itself in various stages of decomposition, in the very many slips in their sides. In descending one of these gorges (which required in some places no little caution; for, on one occasion in particular, the native who carried my box of testaments, &c., slipped his foot and went—sliding away—until he was staid by a friendly tree, fortunately without receiving any injury; the box, however, was knocked to pieces with the violence of the concussion), I found a small glaucous glabrous species of *Pteris* (*P. montanum*, n.sp., W.C.), in affinity near *P. Brunonianæ*, Endl. A smaller variety of *Polypodium sylvaticum* (already noticed), I also obtained in this district. After a silent and persevering march of some hours through the very cold rain (for in threading our tortuous way through the endless mazes of a pathless forest, in such weather as we now experienced, we found it impossible to keep ourselves warm), we began to shiver with cold, and determined on halting at the first sheltered spot. By the side of a rivulet at the bottom of a hill we found a deserted hovel; which, though open on all sides, offered us better shelter from the pitiless rain than we had

expected to find in such a place. We [258] repaired our hut with tufts of the different *Carices* that grew hard by, and pitched my tent, and, throwing off our dripping garments and kindling a fire, we endeavoured to make ourselves as comfortable as we could in our present circumstances. Fortunately we had a few potatoes with us, which, not knowing how long this weather might continue, we divided *una voce* into three small portions, so as to afford us two meals for the morrow. The rain continuing to descend in torrents, swelled our little rivulet to a large stream, causing me to fear that the little level spot on its banks, on which we were now encamped, would soon be overflowed.

Day-break this morning found us much the same as daylight last evening left us—with water on every side. The past night was one not likely to be soon forgotten. The heavy rain and rattling hail which unceasingly poured down—the vivid lightnings and hollow sounding thunder reverberating awfully in never-ending echoes among the hills—the angry winds which furiously rushed in fitful roaring blasts through the ancient forests, rocking and creaking and lashing the monarchs of centuries as so many saplings of a year, stripping their "leafy honours" and cracking off their branches hurled them to the earth—the hooting of owls and shrieking of parrots, which flew affrightedly about seeking shelter—all united to declare, in a voice too plain to be misunderstood, the great commotion Nature was undergoing; fit knell for the departing year. The bard might, indeed, truly say—

"A thunder storm! the eloquence of heaven,  
When every cloud is from its slumber riven;  
Who hath not paused beneath its hollow groan,  
And felt Omnipotence around him thrown?  
How stirs the spirit while the echoes roll,  
And God, in thunder, rocks from pole to pole!"

*Montg. Omnip. of Deity, part 1. [259]*

The morning was most gloomy, the rain still incessantly poured, and our cold, wet, lonely, and starving situation was anything but pleasant; when, as if we wanted somewhat more to taste of the very acme of cheerlessness, our only guide deserted us, returning to Waikare! He had intimated enough last evening to lead me to suspect him, and I had kept a watch over him, but he easily found an opportunity of leaving us. My other natives were all from distant parts of the island, and knew no more of this neighbourhood than I did. We were now in a dilemma; to go back to Waikare, was, from there being no proper path, not a whit easier journey than to go forward to the next village. The weather, however, confined us to our rude shelter, under which I, clad in light summer clothing, shiveringly sat, holding an old umbrella over my head! Towards evening the weather moderated, and I ventured to walk a few yards among the half-drowned vegetation on the banks of the river. Here, I obtained a fine specimen of a small but handsome shrub, belonging to one of the genera *Haxtonia*, or *Brachyglottis*. At night, rain still pouring down, I called the natives to council, to consider what we had better do in this our exigency; so we unanimously agreed, "rain or shine," to proceed on our journey to-morrow morning, trusting somehow or other to find our way—a determination to which we were compelled through hunger, having consumed our last scanty meal.

1842. January 1st.—Early this morning the rain ceased; but, as the heavy clouds still shrouded the face of heaven, it was just as wet from the dripping trees and rank vegetation around us in these deep valleys and dark forests, as if it was still raining. We [260] commenced our wet and cold march

sans breakfast, with perhaps a more hearty will than if we had sumptuously fared. We kept by the banks of the little stream, which we crossed and re-crossed repeatedly, making our walk very unpleasant. Here, in these deep secluded glens, I discovered a new and unique species of *Lomaria* (*L. heterophylla*, W.C.), some of whose immense pinnatifid fronds measured near three feet in length. Here, also, I discovered a large, climbing, and peculiar species of *Aspidium* (*A. Cunninghamianum*, n.sp., W.C.), differing much from all other species of *Aspidiea* that have come under my notice. This is the largest climbing fern yet detected in New Zealand; some fronds measuring near three feet in length. I dedicated this plant in memory of that very zealous botanist, my much-lamented friend, the late Allan Cunningham, Esq. In this locality I obtained another species of *Hymenophyllum* (*H. villosum*, n.sp., W.C.), which was epiphytically on reclining trees, and, a beautiful long-fronded and pendulous Moss (*Hookeria pennata*?), whose long diaphanous fronds of 6- inches grew horizontally and solitarily from the sides of ravines, in these damp woods; I could only detect one specimen bearing capsules. I gathered specimens of several other Mosses and *Jungermanniae*, which appeared to be new. About noon, to our very great surprise, our runaway guide overtook us, bearing a large basket of fine potatoes on his shoulders, for which he had purposely gone back all the way to Waikare in that heavy rain, in order that we might not suffer from hunger. I could but esteem and applaud the man's kind consideration, whilst I disapproved of his leaving of us in the manner he did, without saying a word as to the object of his [261] returning.<sup>118</sup> At 2 p.m. we arrived at Ruatahuna, a small village, surrounded on all sides by dense forests, where we were hospitably received. The natives soon cooked us some potatoes, on which we made a very hearty meal. Several of the natives of this village were engaged in making and carving *poukakas*, i.e. parrot-stands; which they use in catching the large brown New Zealand parrot (*Plyctolophus Meridionalis*). These birds, which are very numerous in these woods, are decoyed, by means of a tame one fastened to a perch, to alight on the snare-like *poukaka*, when they are instantly seized by the native who is concealed for that purpose. They are fond of taming these birds, which if taken young will soon talk, but they are very mischievous, and their bite is hard. Their body is a dark-russet-brown colour, with red feathers under the throat and wings. These red feathers are in great request for ornamenting their *hanis*, i.e. carved-headed staffs, which they use as weapons of defence. The flesh of this parrot is dry and lean, but is eaten by the natives, who call it, Kaka. That little black pest, the sand-fly, was here in countless swarms; owing, I suppose, to the sandy nature of the soil. I never before [262] noticed them in such numbers at any place away from the immediate coast, to the sandy shores of which they are

118 WC: This, however, is quite in keeping with the national character of the New Zealander. Prompted incessantly by an ever-restless and indomitably independent principle of doing some capricious work of supererogation, whilst their defined duties are left undone, they often sadly try to the utmost the patience of those with whom they have to do. In their own language they have a word (pokanoa) which, while it fully conveys the force and meaning of the foregoing remark, is, from the frequency of the occurrence of such conduct, in daily if not hourly use by every native of New Zealand. Nor is such a capricious way of acting confined to those who are still in their novitiate, on the contrary, those who may have been for years in your employ, are equally, if not more, prone to such conduct.

generally confined. Their bite is most virulent just before and after rain. The natives call them, Namu.

At this village I remained for three days, busily engaged with the natives. On the fourth I again resumed my journey. At first, my route lay over high and steep hills, clothed with forests to their summits, which having gained, I descended to a deep valley, where ran a rapid brawling stream of from two to three feet in depth. By the banks of this river, among gigantic ferns and underwood, decaying logs and fallen trees, we travelled on, every now and then crossing the stream, which we certainly did more than fifty times! This was by no means pleasant travelling, but there was no alternative. On the banks of this river I first obtained specimens of a fine arborescent fern, *Dicksonia fibrosa*, n.sp., W.C. This fern attains to the height of 18 feet. Its large and spreading living fronds measure from 6-9 feet in length; these, however, are generally few in number, and deciduous. Its caudex is composed of thick layers of fibres, resembling, at first sight, the fibrous interior of the husk of a cocoa-nut. In this locality, I also found a species of *Myrtus*, a small tree bearing orange-coloured juicy berries, growing to the height of 10-15 feet. The natives spread their blankets, or mats, under these trees, and shaking them, soon procure a quantity of fruit, which is very good eating. Each berry generally contains three reniform hard seeds. The natives call it Rohutu. Towards evening, we emerged from the dense forests, in which we had for some days been confined, to a large plain covered with fern, the first fern we had seen for several days. My natives rejoiced at [263] the sight, vociferating loudly their being privileged to see a "koraha maori" (indigenous fern-land, open country,) again! Their uncontrolled joy forcibly reminded me of the rejoicing of the "ten thousand" Greeks, on their again seeing the sea. In crossing this plain I obtained, from a boggy watercourse, a small plant with white flowers, probably a species of *Limosella*—a fine species of *Marchantia*—a *Hydrocotyle*—and a species of *Hypericum*. This last appeared to me to be very distinct from *H. pusillum*, D'Cand.;<sup>119</sup> this being a plant of erect growth, with oblong calyces, and oblong-ovate or obovate undulated and margined leaves. We halted this evening at Te Waiiti, a fenced village, situated on the banks of the river at the end of the plain. The bed of this stream (here large enough to float a moderate sized boat) was composed of ashes and other volcanic substances worn into pebbles.

The next morning we resumed our journey. Passing on through a low wood by the river's side, I noticed several fine plants of *Dicksonia fibrosa*, their trunks grotesquely hewn by the natives into all manner of uncommon shapes, in cutting away their fibrous outside for the purpose of plank for their houses and stores. Discovered another *Lomaria* (*L. deltoidea*, n.sp., W.C.) this morning, in ascending the first wooded hill after fording the river. This species approaches very closely in general appearance, *L. deflexa*, already noticed. In a damp forest I obtained fine specimens of my new *Davallia*, some fronds measuring 18 inches in length. [264] I only observed this elegant fern growing in two places during the whole of my journey; and not above half-a-dozen plants in either spot. Toiling up the barren and lofty hills before me, I found, near their summits,

119 WC: *H. pusillum*, is thus described.—"Caule debili prostrato, foliis ovatis obtusis, calyce lanceolato," &c. D'Cand., prod. I. p. 540; and is mentioned by Cunningham, in his "Preliminary," as being found in New Zealand. Vide, Ann. Nat. Hist., vol. iii. p. 317.

a species of yellow-flowered *Compositae*, which I had not previously seen. These hills were composed of broken pumice and ashes. The sun was intensely hot, and the roads, in several places worn into deep and hollow gorges, were extremely dry and dusty; our feet, and even our ankles, being often buried in the loose and broken pumice through which we had to travel. Gaining the summit of the highest hill, the view was most extensive and striking. Immediately beneath meandered the Wirinaki, a bold brawling river, flowing quickly over its stony bed, and possessing water sufficient to float a moderate sized boat; beyond, were barren hills of all possible irregular shapes and heights; further still, an extensive plain extended E. and W. as far as the eye could reach; beyond which a chain of lofty table-topped hills bounded the range of vision; while here and there, far away in the extreme distance, several high and isolated mountains reared their barren heads above the horizon. On the left appeared Tauwara, a high mountain in the Taupo district; Paeroa, and Kaingaroa, near Rotorua, presented themselves in front; whilst, on the extreme right, Putauaki, the high mountain near Wakatane on the E. coast, upreared its two-peaked summit to the clouds. Here, notwithstanding the pleasurable height to which my imagination had been raised, whilst engaged in contemplating the magnificence and extent of the prospect before me, it soon sank below its ordinary level, on finding that not a human being dwelt in all that immense tract of country [265] on which my eager gaze then rested! The grass grew, the flowers blossomed, and the river rolled, but not for man! Solitude all!! Even the very little birds, few though they were in number, seemed to think with me; for they flew from spray to spray around and about my path with their melancholy "twit, twit," as if wishing to have all they possibly could of the company of a passer-by. Their actions were quite in unison with my thoughts; and I feelingly exclaimed—"Oh! Solitude, where are thy charms," &c. Descending to the banks of the river Wirinaki, I was rewarded with the discovery of a few new plants, among which were—two species of *Epilobium*, one of which was very beautiful, having its small linear and serrate leaves densely imbricated, and fruit alternately and longitudinally striated and striped with black stripes—a small shrubby *Dracophyllum*—and a very pretty little *Polygonum*, some plants being so small as not to exceed an inch in height, although bearing both flower and fruit! Proceeding on, over the long plain I had seen from the summit of the hill, I got specimens of some small ? *Restiaceous* plants, which, with *Leucopogon Fraserii*, and the minikin *Polygonum* already noticed, composed the vegetation of this very desolate and sterile spot. I think I never before saw so barren a plain as this; a truly "blasted heath;" or, in the nervous language of Holy Writ, "a parched place in the wilderness, a salt land and not inhabited." Night was fast closing around us, and we quickened our pace, although excessively tired, in hopes of finding a few sticks, wherewith to kindle a fire, for none at present appeared within ken. After some time we found some small dry scrub (*Leptospermum scoparium*) on the bank of the river, where we bivouacked for the night. [266]

At a very early hour the next morning we re-commenced our journey. Crossing the rapid river Rangitaiki, at the end of the plain (which, at the fording-place, we found to be breast deep, and which we were obliged to cross in an oblique direction that we might not be swept down with its strong current), we travelled over a country more sterile, if possible, than that of yesterday. An interminable succession of dry and barren hills of broken lava, pumice, ashes, and

other volcanic matter, where the stunted vegetation was all but quite burnt up with the exceeding heat of the sun's rays, afforded but a very scanty gleanings to the botanist. I was, however, rewarded with a few new plants; among which were—a fine species of erect *Cardamine*, which I found at Mangamako, a little wood through which we passed—a graceful species of fragrant-scented *Dracophyllum*, a small shrub 2-4 feet in height; which grew sparingly in the little dells between the hills—and two curious and minute species of *Composite*, which grew in dense patches upon the dry and broken pumice. These interesting little plants were scarcely above an inch in height, presenting quite a unique appearance with their brown and hoary leaves closely imbricated and decussated, and terminal receptacles of yellow silky flowers. I had previously obtained (through a friend) specimens of one of these species, which was procured from a mountainous spot in the vicinity of Taupo; these I sent to Sir W.J. Hooker. Here, in these sultry hollows, the insect tribes were very numerous. Brilliant *Libellulae* darted about in every direction. I captured one fine fellow, dappled with burnished gold, measuring nearly four inches in length; others, having filiform attenuated bodies, were carmine- [267] coloured, with elegantly disposed lozenge-shaped gold spots; whilst others were adorned with alternate stripes of black and ultra-marine. Of the beautiful genus *Buprestis*, too (or some very nearly allied genus), I gained several specimens; some of which were abundant on the fragrant *Dracophyllum*, allured, doubtless, by the scent and honey; the moment, however, you attempted to take one, down he would let himself drop as if dead. The greater number of the insects I obtained were quite new, and belonged to genera unknown to me.

Towards evening I arrived in the neighbourhood of the Rotorua Lakes. Crossing a deep bog, I discovered a very peculiar little leafless monopetalous plant growing in, or rather on, the surface of the mud. On nearing Rangiwakaaitu, the first and southernmost lake, I was much gratified with the truly lovely appearance of a very beautiful species of *Leptospermum*; a small tree of from 15 to 25 feet in height, which flourished here, growing in clumps and rows as if artificially planted. These trees were literally laden with a profusion of beautiful blossom, and, from there being no underwood about them, not so much as a tuft of grass, looked conspicuously charming. Another circumstance appeared to me as being singular, there not being any small or young plants of the species to be met with; all were old trees of many years growth. I say, old, because the *Leptospermum* is a slow-growing plant. Beneath them grew a curious woolly-looking white moss, which, though I sought assiduously, I could not detect bearing any fructification. We had arranged to make Tarawera (the second lake where some natives resided) our halting-place for this night, but, although we had nothing to eat, we were so excessively tired as to be [268] obliged to bring up on the white gravelled shores of the placid Rangiwakaaita. I offered my natives the choice of staying supperless where we were, or of proceeding on to Tarawera, distant about three miles, and there getting supper; fatigue, however, overcame hunger, even in a New Zealander, and they chose the latter. The whole face of the country in the neighbourhood of the lake, was overspread with massy blocks of compact lava scattered in every direction; many of which were vitrified on the surface. The ground gently rose on every side from the lake, which appeared to occupy a deep hollow; and, I could but venture to suppose, that this might perhaps have been the crater of that volcano, which,

in some by-gone age, inundated the whole of the adjacent country with showers of pumice and ashes.

At an early hour the next morning we arose, feverish, stiff, and sore, to re-commence our march. We soon came within sight of the place where the hot-springs were situated; from which the steam and sulphureous vapours ascended in dense white clouds. The air, this morning, was cool and bracing; and, after travelling about an hour and a half we arrived at Tarawera Lake. Here, at a little village on its banks, we gained some potatoes, on which we breakfasted with a hearty zest. At this place, were several small hot springs, which flowed out of the earth near the edge of the lake; the water of some was hotter than the hand could bear. Just within the lake, the water was warm; a little further on, it was luke-warm; and further still, it was cold; so that these natives have baths, of every requisite degree of heat, always ready, without any trouble whatever. The water of the lake, I supposed to be specifically heavier than the sulphureous hot waters which [269] flowed into it; as, whenever the natives of the village wished to drink, I observed them to go into the lake, and dashing the uppermost water aside with their feet, quickly take up some from beneath; which, they said, was good and cold. The natives of the village informed me, that, at a spring on a hill at a little distance, the water was quite hot enough for the purposes of cooking, for which they often used it. Sulphur, too, abounded there, and was often "thrown up" out of the earth, from which place the steam and smoke ever ascended. My curiosity being excited, I, while breakfast was getting ready, set off with a native of the village as a guide to the boiling spring; but, after going up one steep hill and not perceiving any sign of the same, and being almost exhausted for want of food, hunger conquered curiosity and I returned to the village. I have often been surprised at the great carelessness which I have exhibited towards rare natural productions, when either over-fatigued or ravenously hungry; at such times, botanical, geological, and other specimens, which I have eagerly and with much pleasure collected and carefully carried for many a weary mile, have become quite a burden, and have been one-by-one abandoned; to be, however, invariably regretted afterwards. Breakfast ended, we, accompanied by the chief of the village, paddled nearly to the opposite side of the lake. This sheet of water is about three and a half miles in length, and from one to two miles in breadth; is surrounded on all sides by barren hills, and is very deep. Landing, and walking about two furlongs, we came to Karea, another little lake much smaller than the preceding. Here, we were obliged to sit and wait some time before we could get a canoe, which having obtained, we [270] paddled to the opposite end. This little lake is about a mile in length, and about three quarters of a mile in breadth. Resuming our journey, and gaining the top of a high hill, we had a fine prospect of the principal Lake of Rotorua; a fine sheet of water about six miles in diameter, with a very picturesque island nearly in the midst. An easy journey of a few miles from the top of the hill, brought us to Te Ngae, a church mission station on the eastern side of the lake; where we were very hospitably received by Mr. Chapman. I gained not a single botanical specimen throughout the whole of this day.

I remained at Te Ngae for a few days; during which time I visited Ohinemutu, a large and fenced town on the banks of the lake, celebrated for its boiling springs. This village is one of the principal ones belonging to that very turbulent tribe, Ngatiwakaue; in it the head chiefs of the tribe have for a long time resided. The large spring at this place was

boiling most furiously, throwing out many gallons of water a minute, which rolled away steaming and smoking into the lake, a second Phlegethon. In the smaller springs, of which there were several, the natives cook their food, merely tying it up in a rude basket made of the leaves of *Phormium tenax* woven together, and, placing it in the boiling water, where it is soon dressed. For this purpose, and for that of bathing, they have made a number of holes through the crust, or scoria, on which this village is principally built; so that it may truly be said, that this people dwell in houses built over subterranean fires. The sulphureous stench which abounded here, was almost insupportable. The blade of a knife immersed for a short period in some of these waters, soon [271] becomes as it were superficially bronzed. Pebbles and small stones lying within the influence of the water or steam, wore a bronze-like appearance. Accidents not unfrequently happen to children; and to dogs and pigs brought from a distance. The quadrupeds, however, of the place, appear instinctively to be well aware of the potential callidity of these streams, and shun them accordingly. The natives who live in this neighbourhood are, when travelling, easily recognised as belonging to this district, in consequence of their front teeth decaying at a very early age, contrary to those of other New Zealanders. This is supposed to be caused by the sulphur with which these springs are impregnated, being deposited on the surface of their food during the operation of cooking, which, consisting chiefly of roots, is mostly bitten into morsels with their front teeth. The natives of this village are celebrated, among other things, for their manufacture of tobacco-pipes; an article of first-rate utility to a New Zealander. These they carve out of a white stone which is found in this neighbourhood, patiently finishing a short-stemmed pipe in a day. These pipes look well, and stand the heat of the fire.<sup>120</sup> I saw some beautiful white blocks of this stone near the village, lying on the surface of the ground; some of which were vitrified on the outside. The natives of this neighbourhood grow their own tobacco, which they gather, and, separating the large fibres of the leaf, twist up into *figs*, in imitation [272] of our negro-head. Here, on the very edge of the large boiling spring, several plants flourished in perfection; particularly *Pteris Brunonianana*, *Endl.*; and two small plants which I considered new. One of these, a species of *Carex*; the other a *Compositæ*, probably a species of *Myriogyne*, differing, however, from *M. minuta*, *Less.* (the already-described New Zealand species), the leaves of which are sessile and much smaller. I regretted that I had not a thermometer, with which I might ascertain the temperature of the water. Fine specimens of crystallized sulphur abound in this neighbourhood, but, from their delicate structure and extreme fragility, it is rather a difficult matter to convey them to any distance, and at the same time to preserve their beauty. From the barren hills in this locality I gained an elegant *Lycopodium*, and a new species of *Gaultheria*, a branching shrub, 4-7 feet in height. Some natives informing me of a new and peculiar tree which grew on Mokoia, the island in the midst of the lake, I crossed over to it and sought for the same, but gained nothing new. From subsequent information I was led to conclude, that the tree which I had been in quest of, was no other than the

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120 WC: I have a large pipe now by me, made of pumice, which I obtained at Wareponga, on the E. coast, in 1838. The native from whom I received it, was smoking from it when I came up. Of necessity it was very thick, but a reed was introduced as a mouth-piece. The owner gladly exchanged it for a common clay pipe of European manufacture.

*Vitex littoralis*, one of which species, according to the natives, grew on the island, but not another in the whole district. I observed the natives continually masticating a kind of resinous gum, which was insoluble in water, and which did not decrease through the process of repeated chewing; this, they informed me, they obtained from the Pukapuka (*Brachyglottis repanda*, A. Cunn.), assuring me that the swallowing of the substance caused death. They pointed me out the shrub, which, although slightly differing in general appearance, bore strong resemblance to [273] Cunningham's plant; as it was neither in flower nor fruit, I did not take any specimens: it may, however, prove a new species. Through the kindness of Mr. Chapman, I obtained, from a spring in the neighbourhood, several specimens of a Siliceous matter, deposited by the waters of the spring on twigs, leaves, &c. lying in it. During my stay I procured fine specimens of two large species of *Curculio*; the head and snout of one, without its antennæ, being more than two inches in length; the other had a peculiar flabelliform tail, somewhat like that of a small shrimp. The lake contains an abundance of small crayfish, which are very good eating. Here are, also, two small species of fish, called by the natives Kokopu, and Inanga; and a black bivalve shell fish, a species of *Unio*; the whole of which are common in most of the fresh water streams in New Zealand.

On the 13th of January I left Te Ngae. Crossing the lake, I landed at the N.W. extremity, and once more resumed my journey. I soon entered the dense forest, through which the road to Tauranga lies, in which we continued travelling until sun-set. In this forest, in a low, wet, and dark spot, I obtained another new and peculiar species of *Lomaria* (*L. nigra*, n.sp., W.C.); and on the stony banks of Mangarewa, a small river running in a deep ravine, I discovered an elegant species of *Lindsaea* (*L. viridis*, n.sp. W.C.). In travelling this day, I carelessly plucked a fern which grew pendulous from a tree, believing it to be *Asplenium falcatum*, Forst.; happening, however, to preserve the fragment, I have since examined it, and find it to be a distinct and new species. This I have named *A. Forsterianum*, in honour of that celebrated botanist, whose name should ever be had in remembrance by all persons [274] botanizing in the forests of New Zealand. I also obtained some fine specimens of *Tmesipteris*, which (if not possessing distinctness of character sufficient to constitute a new species) differs much from my specimens of *T. Forsteri*, Endl. (the described New Zealand species) in size and general appearance; some plants being between two and three feet in length. Whilst my natives were pitching my tent, I, wandering about, obtained a few specimens of small *Jungermannia*, and a Moss with a peculiar yellow lichen parasitical upon it. As the shades of night closed about us, in the deep recesses of the forest, we were visited with numbers of a large green coleopterous insect, which my natives caught, roasted, and ate. During the night the mosquitoes so sadly annoyed us as to keep us all from sleeping.

At an early hour the next morning we re-commenced our march. Continuing our course, as yesterday, in the forest, I discovered a fine moss, a species of *Polytrichum*; and an *Urtica*, with lanceolate leaves. From the summit of the hill, where this long forest terminates, a fine and extensive prospect of Tauranga harbour, distant about fifteen miles, presents itself to the view. The path hence to the sea-side lies through fern land, and is chiefly a descent the whole way. Towards evening we arrived, at the mission station, without observing anything worthy of notice by the way.

I remained a few days at Tauranga, and during my stay, obtained a fine species of *Hippocampus*, measuring nearly a foot in length. This animal the natives sometimes dry and use for an ear-ornament, suspending it by its tail, which they curl that it may the better remain in their ears. I once procured from this place a beautiful and unique specimen of the genus *Ardea*; it [275] was a small bird, somewhat resembling *A. exilis*. The natives, however, did not know it, declaring they had never seen such a bird before.

On the 19th, I once more re-commenced my peregrination. Crossing the inner harbour, which is wide and very shallow, we landed at the N.W. extremity of the bay, where the road to Matamata commences. Our route this day (after landing) being principally by the sea-side, I obtained nothing new save a curious species of *Anthoceros*, which grew on the wet pipe-clay cliffs. We bivouacked for the night by the side of a small stream, where we were incessantly tormented with mosquitoes. To add to our misery my guides returned, *sans ceremonie*, leaving my baggage in the wilderness, without saying a word to me, who was on before, on the subject; through this conduct of theirs we all had to remain supperless.

The next morning (after some delay from our want of guides, who were eventually obtained from a party of natives at work in the neighbourhood) we again proceeded, and entering a dense forest continued travelling through it for some hours. We emerged at length on the top of Te Wairere, a very high hill, from the summit of which the view of the surrounding country is most extensive. Tongariro (a very high and still active volcano in the Taupo district), my guide assured me, is to be seen in clear weather from this place. Beneath, in the vast plain, the river Waiho, hence navigable for canoes, meandered, mingling its waters with those of the ocean at Puriri, in the river Thames. In passing through the forest I obtained a few small Cryptogamic specimens; but no other plants attracted my notice as being either new or rare. Descending Te Wairere, we [276] halted at a brawling stream at its base to roast a few potatoes. Here, on the brink of the stream, I discovered a small tree of a genus unknown to me (unless it should prove to belong to the genus *Tophis*); I only observed one plant, which was about 15 feet high, with smooth cineraceous bark, solitary crimson fruit, and small serrated oval dark-green leaves. On cutting its bark, a profusion of thick viscid milky juice gushed out. From the stream I obtained some fine specimens of *Algae*. Leaving this place, we crossed the river Waiho, which at the ford was breast-high, and proceeded on, over the plain and through the extensive swamps, towards Matamata, a large native village, which place we reached late at night. In crossing the marshes, I only noticed a *Coprosma* as being new, of which I brought specimens. The chapel at this village, being wholly of native execution, is worthy of notice, and does them great credit. Length, breadth, and height included, I suppose it to be the largest native-built house in New Zealand. It measures 95 feet by 40, and is nearly 18 feet to wall-plate. It has fine large smooth slabs of the Totara for posts, some of which were nearly 3 feet in width. The interior was very neatly constructed of a kind of chequer-work, composed of the stalks of the common fern (*Pteris esculenta*), placed laterally on each other, interlaced with strips of the fibrous Kiekie (*Freyccinetia Banksii*). The grave colour of the fern stalks agreeing well with the purpose for which the house was built. The whole possessed a very neat appearance. From the natives I learnt, that they were

indebted to the Taranaki tribes, on the S.W. coast, for the knowledge of this kind of ornamental work.

Early on the morning of the 21st I left Matamata, [277] travelling in a S.W. direction for Maungatautari, an elevated district situated nearly midway between the E. and W. coasts. In crossing a small stream, I discovered a peculiar *Carex*-like procumbent plant growing in its bed, completely under water. As it was now the driest season of the year, and as the water of the stream was nearly two feet deep, this plant must necessarily be always immersed. A graceful leaved *Hydrocotyle*, I also obtained from the same locality. After walking about eight miles over level and barren ground, we entered a romantic valley, called by the natives Hinuera. This valley has, on either side, high and perpendicular volcanic rocks, composed of a conglomerate of pumice, scoriae, obsidian, &c. On the S. side of the valley, this rocky rampart ran continuously for nearly two miles; while on the N. side, the hills bore on their table-tops groves and clumps of graceful pines, contributing not a little to the beauty of the landscape. At 2 p.m., we halted to dine under a large and pensile crag, which, jutting out from the rocks on the N. side, overhung our path. Here, beneath this rock, I discovered an elegant *Asplenium* (*A. Hookerianum*, *n.sp.* *W.C.*), a species approaching, both in habit and affinity, very near to *A. Colensii*. I did myself the honor and pleasure of naming this graceful fern, in memorial of my much respected and talented friend, J.D. Hooker, Esq., M.D., who, as assistant-surgeon and naturalist, visited these islands in H.M.S. *Erebus*, in the winter of 1841. In a thicket in this neighbourhood, through which we passed, I detected a graceful shrub of very slender habit, with peculiarly hairy bark. This plant bears a small white blossom, has but few divaricate branches, and attains to the height of 6-9 feet.

[278]

Proceeding hence, we suddenly came upon a most remarkable subsidence of the earth in the midst of a large plain. Descending through a rapidly-inclining and narrow defile, having sandy slopes on either side, I came to a level, also of sand and destitute of the least blade of vegetation; thence I descended, an almost perpendicular descent knee-deep in sand, to another level, where a subject for contemplation and astonishment presented itself. On all sides rose perpendicular and sandy cliffs, varying in height from 150 to 200 feet, for the most part white and sterile, and composed of volcanic sand and pebbles to their very bases. At the bottom of this immense ravine, a gentle stream wound its silent way, while, a little further on, whole trees, dead and charred (from whose sides the loose sand, &c. had been removed by the action of the winds and rains), stood erect, in the places where many ages ago they once grew; at a depth of from 100 to 200 feet below the present level of the soil! I greatly regretted my being so much pressed for time in passing this place, called by the natives, Piarere; but the sabbath drew nigh, we had no provision, with several miles yet to go ere we should reach a village; and the loose sand, through which we were now toiling, we often sank in up to our knees.

Quitting this hollow, and ascending its S.W. side, I was again agreeably surprised in seeing the noble river Waikato, with its blue waters (here wide, and swift, and deep), rolling majestically along. This is the largest fresh water stream I have yet seen in New Zealand. This river the natives navigate in their canoes from above this place to where it disengages into the Southern Ocean on the W. coast, a distance of nearly [279] 250 miles. In consequence of there

not being any food at this place, we had to travel about five miles in an almost southerly direction by the bank of the river, before we could cross it. We found, however, a rude bridge thrown across, at a place where the river was very narrow, being confined within a sandstone channel, through which it rushes with fearful velocity, eddying, and foaming, and carrying everything before it. The sandstone rocks on either side, through the softness of the stone and the continual working of the waters, were fretted into a thousand fantastic shapes. Leaving the river, and ascending the western banks (which here rose in regular terraces over one another), we proceeded in a westerly direction for upwards of six miles, arriving at sunset, unwell, in pain, and much fatigued at Wareture, a small village in the Maungatautari district, where we were hospitably received by the natives. The sun throughout this day was intensely hot, and most of the country over which we passed quite free from wood, and very dry and dusty.

At an early hour on the morning of the 24th, I once more recommenced my journey. The land in the immediate neighbourhood of this village appeared to be of very good quality; such also, is the land immediately around Matamata. The fervent sun, unobscured with clouds, told of another melting day, and the high fern-brakes, through which we had to force our way, abounded with their dreaded subtle yellow dust. I could but think how very applicable were the words of the poet:—

“In vain the sight, dejected to the ground,  
Stoops for relief; thence hot ascending steams.

And keen reflection pain.——— [280]

———— Distressful Nature pants.

The very streams look languid from afar;  
Or, through th'unshelter'd glade, impatient seems  
To hurl into the covert of the grove.”

*Thoms. Seas. Summer.*

Cheering my native fellow travellers, we struggled on together up the steep hills; gaining the summit of the wooded mountainous range, we descended over open fern-land into extensive swampy plains. I observed those pests to agriculture, the large-leaved docks (*R. crispus* and *R. obtusifolius*), to be very plentiful here among the fern; where they attain to a great size, 4-5 feet in height. The natives say, that the Ngapuhi tribes (who live in the northern parts of the island, and with whom they were formerly at continual enmity) sowed the seeds of this plant hereabouts, in order to spoil their lands.<sup>121</sup> I doubt, however, the cause assigned for its introduction here in the very centre of the island, but not the fact. At Poverty Bay, and parts adjacent, the natives assert, that the seed of the dock, was originally sold them by whites for that of the tobacco plant! Various species of the genus *Rumex* are now too frequent in several districts, in common with many other noxious European weeds. I have often noticed, in travelling, certain spots abounding in the rankest vegetation, but without a single indigenous plant. The new comers appear to vegetate so fast, as quite to exterminate and supersede the original possessors of the soil. In crossing a very [281] deep swamp, a beautiful bird, apparently of the crane kind, rose gracefully from the mud among the reeds, and flew slowly

121 WC: This alleged act of the Ngapuhi army, reminds us of what we read in the Sacred Writings, of the ancient custom of sowing the city of the enemy when taken with salt.—Judg. ix. 45. And, in more modern times, “the city of Milan was burnt, razed, sown with salt, and ploughed,” by the exasperated Emperor Frederick Barbarossa.—Comp. Sys. Geog. v. p. 822.

around us; its under plumage was of a light-yellow or ochre colour, with a dark-brown upper plumage. None of my natives knew the bird, declaring they had never seen such an one before. Leaving the swamp, and entering on a plain, I discovered a new and elegant plant of the *Orchideæ* family (probably belonging to the genus *Microtis*), possessing a lovely carmine-coloured perianth, with pubescent scape and spike. It was, however, very scarce, I only detecting it in one low spot by the side of the path. A pretty little *Lobelia* grew about here in great profusion. At sunset we reached Otawao, a mission station. This place being in the midst of an extensive plain of fern, affords little entertainment to the botanist.

On the 26th I continued my journey towards the western coast. During the whole of this day I did not obtain a single plant, although we travelled over many a weary mile of desolate wild until some time after sunset. At one part of our route this morning, the scenery was of the most enchanting description. Groves and clumps of that elegant pine., *Dacrydium excelsum*, were intersected with small placid lakes and level plains, appearing like a work of art. Late at night we threw ourselves down to rest among the fern, in a small and miserable village near the banks of the river Waipa. Rest, however, was quite out of the question, for our old and implacable tormentors, the mosquitoes, were innumerable. The next morning, before sunrise, hungry, weary and sleepy, we willingly started from this wretched place, where our night instead of being one of rest, had literally been one of continual torment! [282] Passing through a deep and muddy watercourse, I obtained specimens of a large-leaved *Myriophyllum*. Half-an-hour's march brought us to a village on the immediate banks of the Waipa river. Here, we obtained a canoe, and got some food, which, having despatched, we proceeded down the river in our little bark. This river has a very tortuous course, winding continually to all points of the compass.<sup>122</sup> Its width is pretty uniform, being generally from 70 to 100 feet, with a slow current. It is navigable hence to the sea for large boats, and its sides are, in many places, densely clothed with trees to the water's edge, among which *Dacrydium excelsum* shows itself conspicuous. In its banks, which are mostly composed of alluvial earth, and which in some places are from 14 to 20 feet in height, pipe-clay and volcanic sand often present themselves to the view. At 4 p.m., we reached Ngaruawahie, the spot where the junction of this river with the Waikato is effected. As before, the Waikato came rolling impetuously on, carrying its waters quite across the quiet Waiapa to the opposite bank. From this place the two rivers bear the name of Waikato to the sea, and justly so, as the waters of the Waipa are completely lost in those of the deep and rapid Waikato.

A little below Ngaruawahie, we met a native in a canoe, with a live and elegant specimen of the genus *Fulica*. I hailed the man and purchased the bird, [283] which he had recently snared, for a little tobacco. It was a most graceful creature, and, as far as I am aware, an entirely new and undescribed species. Its general colour was dark, almost black; head, grey, and without a frontal shield; fore-neck and breast, ferruginous red; wings, barred with white; bill,

produced and sharp; feet and legs, glossy olive; toes, beautifully and largely festooned at the edges; eye, light-coloured and very animated. It was very fierce, and never ceased attempting to bite at everything within its reach. I kept it until we landed, intending to preserve it, but—as it was late, and neither material at hand nor time to spare, and the animal, too, looking so very lovely that I could not make up my mind to put it to death—I let it go; it swam, dived, and disappeared. From its not possessing a frontal shield on the forehead (which is one of the principal generic marks of the Linn. genus, *Fulica*), it may possibly hereafter be considered as the type of a new genus, serving to connect the genera *Fulica* and *Rallus*. Not a doubt, however, in my opinion can exist, as to its being naturally allied in habit and affinity to the *Fulicæ*; I have, therefore, named it *Fulica Nova-Zealandiae*. In size, it was somewhat less than our European species, *F. atra*.

I gained not any botanical specimens this day, save the *Myriophyllum* already mentioned; although I had every reason to believe, that many new and interesting plants would doubtless be found, in the dense and ever-humid forests on the immediate banks of this noble river: time, however, would not permit my delaying for that purpose.

At an early hour the next morning I re-commenced my voyage down the Waikato. I found the river to [284] widen considerably as I advanced, being in some places from 300 to 500 yards in width, but very shallow. Its course, here, was not so sinuous, and much more northerly, than those portions we passed over yesterday. The land is low on either side, and, as I proceeded, several small and flat islands divided the river into channels. After paddling about 20 miles, we beached our canoe on a small island, in order to breakfast. The river here is very shoal, with a sandy bottom, which, together with the sub-soil of the island on which we landed, is of volcanic origin, consisting of broken lava and pumice. I found nothing new among the vegetation of the islet. Near this place, the natives informed me, and at a short distance from the right bank of the river, is a large lake, in which are quantities of Kanae (*Mugil* —) and Patiki (*Pleuronectes* —), neither of which are found in the Waikato. These fish are found, in their season, on all the New Zealand coasts, and are very delicate eating. The lake is named Waikare, and runs into the main river a little lower down. As we proceeded, the banks of the river became more and more lovely, being in many places clothed with the richest profusion of vegetation to the water's edge. Among the trees, the Kahikatea (*Dacrydium excelsum*) was ever predominant. We noticed a Kauri (*Dammara australis*) today, for the first time since we left the Bay of Islands. At seeing this pine my natives, whom I had brought from the E. Cape, and who had never seen one of these trees before, were much gratified. Towards evening, we passed several islets in the river, some of which were high and beautifully wooded. Noticed the Kahikatea to stand very close together in the forests. I gathered, overhanging the banks of the [285] river, a specimen of *Parsonia*, with axillary inflorescence; this, however, may prove but a variety of *P. heterophylla*, as that plant continually varies in appearance, hardly two specimens being alike. Two species of *Epilobium*, one a very fine plant—a *Myriophyllum*—and a linear-leaved floating plant (? *Potamogeton*), I also obtained in this locality. Bivouacked for the night on a little open flat on the left bank of the river. The mosquitoes, as might have been expected, were in interminable clouds and most annoying. Large quantities of an elegant species of *Cyperus* (*C. fulvus*? *R. Brown*) grew here, on either shore.

122 WC: I will just mention the direction of the river, for the first ten miles below the village, as I took it down from observation with my compass: N.E., N., N.W. 1 mile, S.S.E., S., S.S.W., S. ½ mile, S.S.W., W., W.N.W. ½ mile, W.S.W., W. 1½ miles, W.N.W., N.W., N., N.N.E. ½ mile, N.N.W. Those bearings without distances, I supposed to be under a half-a-mile.

Early the next morning we resumed our paddling: down the river, which here begins to be under the influence of the tides. The morning was squally and lowering, with every indication of a gale at hand. As we neared the sea-coast the river became very wide, being from two to three miles across, and containing several flat islands. The water here is shallow. At noon I had a prospect of the outer range of hills on the western coast, and a more dreary and sterile one can not easily be imagined. High and broken ferruginous coloured sand-hills, destitute of the least vestige of vegetation. The wind setting in from the sea, against the ebbing tide, caused the water to be very rough, and called forth our united energies to keep our frail bark from swamping. At 2 p. m. we landed in safety at Maraetai, a station belonging to the Church Mission, where the Rev. R. Maunsell resides, whose kind and hospitable reception quickly made us forget the little danger we had so lately been in.

Maraetai, is on the immediate south bank of Waikato river, and only about a mile distant from the heads. [286] The land on the southern side is very high and precipitous, while on the northern it is hilly but lower, and, for about three or four miles, the very perfection of barrenness. Mr. Maunsell, who has several times been up and down this river, supposes the distance which I came by water to be from 130 to 150 miles; being very nearly what I had calculated it to be. The river decreases rapidly in width as you approach its mouth, which is very narrow with a bar across it, on which there is two fathoms of water. Here, the breakers burst continually; one or two small vessels have, however, entered.

At 6 a.m., on the 1st February, we left Maraetai. Crossing the river in a canoe to the northern bank, we proceeded over the sandhills on our journey towards Manukau. Descending to the outer coast, we continued travelling over the interminable sandy beach until after sunset; when, much fatigued, we halted for the night on the sands, about three miles within the southern head of Manukau Bay. The cliffs to our right in this day's travelling, were high and much broken, composed of sand and sandstone, and in many places covered with verdure. The continual falling, however, of the sandy material of which they are composed, will, in process of time, cause them to entirely disappear. In several places, for many yards together, the line of cliff nearest the sea had recently fallen, bringing with it quantities of small trees and shrubs, causing, at the time of high water, no small obstacle to our progress. I noticed some small shrubs, evidently species of *Edwardsia*, the habit and foliage of which differed from the one I had hitherto seen; I took specimens, regretting there being neither flower nor fruit. [287] A little *Limosella*? also, grew here in the sand. On the face of a damp cliff, near a small watercourse which trickled down the rocks, I discovered a peculiar succulent plant, bearing a raceme of obovate red drupæ. These, with a curious moss, from the wet rocks in this locality, comprised the whole of my collection in this day's journey. Here, on the sandy beaches, feeding on small marine insects, the Dusky Plover (*Charadrius obscurus*) and Southern Godwit (*Limora australis*) were in large flocks. The natives call the former, Tuturuwatu; and the latter, Kuaka. The Godwit is, when in season, very fat, and good eating.

The next morning we continued our course by the sinuous shores of Manukau Bay. We soon reached a native village, where, gaining a supply of potatoes, &c., we recruited our strength, and, engaging a canoe, paddled to the upper

extremity of the harbour; landing at Otahu, the isthmus connecting the northern and southern parts of the Northern Island of New Zealand. The appearance of the strata in the low cliffs at this place is very curious, and worthy the consideration of the geologist. Alluvial earth, clay, volcanic sand, pipe clay, and peat, present themselves in beds one above another, the peat being invariably underneath. Steatite, in small masses, I found mixed among the clay. A stratum of fine white clay, much resembling pipe clay, is generally visible below the bed of volcanic sand, which I believe to consist of either disintegrated lava and pumice, or fine white volcanic ashes. In the sand and mud beneath the cliff over which the tide at high-water flows, calcined and charred roots, and portions of the lower trunks and stems of trees and shrubs abound, still standing in the position in which ages back they [288] grew. The whole appearance of the country in this neighbourhood is of a highly volcanic character. Several abruptly rising isolated hills, partly covered with scoriae, having their sides peculiarly terraced (which, though doubtless augmented by art,<sup>123</sup> attest their volcanic origin), are here scattered about. On the northern side of the bay, and about a mile distant, scoria abounds; the ground being in some places as if entirely composed of it, in massy flat and continuous layers. This isthmus is very narrow, being only about three quarters of a mile across, and that over an almost level plain, a few feet only above the level of the sea. There are not any forests in this locality; the eye wanders over a succession of low volcanic hills, bearing nothing but the monotonous brown fern, with here and there a shrub of *Coriaria sarmentosa* rising a few feet above the common denizen of the soil, by which it is everywhere surrounded. Here, among the fern brakes, the New Zealand quail (*Coturnix* —) is found. This bird, once (according to the natives) very common in this island, has become somewhat scarce, owing, no doubt, to the increasing number of its introduced foes—dogs, cats, and rats. The natives used to take this bird with nets; their name for it is Koitareke. It is a shy bird, being but seldom seen; their cry, however, is often heard. From the dry hills, I obtained two new species of ferns; one, an elegant little *Gymnogramma* (*G. Nova Zealandia*, W.C.) only two or three inches high, I found growing on the scoria among the grass; the other, a species of *Asplenium* (*A. oblongifolium*, W.C.), I gained [289] from the sides of the dark pits and ravines in the same locality. A peculiar species of *Coprosma* (*C. crassifolia*,<sup>124</sup> W.C.), I detected growing among the scoria on the northern side of the bay; together with a curious slender tree, bearing a profusion of red drupæ, and having spathulato-orbiculate leaves, white and downy underneath, perhaps a species belonging to *A. Cunninghamii* new genus *Corokia*. This neighbourhood was once densely inhabited; but the frequent and sanguinary

123 WC: The natives made places of defence for themselves, when attacked, of these hills, before the introduction of fire-arms. Some of them bear evident signs of having been long inhabited.

124 WC: COPROSMA CRASSIFOLIA. Foliis ellipticis orbiculatisve (3-5 lineas longis) obtusis fasciculatis laevibus carnosis petiolatis subtus paillardioribus, margine revolutis integrerrimis rubescens, petiolis pubescentibus purpureo-coloratus. Fructus, solitarius ad apicem ramulorum sub-sessilibus glabris viridi-maculatis; sepalis, monophyllus circumscriptus seu 2-4 angulatis irregulariter persistens. Ramis, brachiatis rigidis adscendentibus glabris W.C. MSS.—. Hab. Scoria, and rocky spots, shores of Manukau Bay, western coast. Obs. Closely allied to *C. rhamnooides* and *C. divaricata*. Flores nondum vidi [not yet seen].

wars of the ferocious tribes of this benighted land, all but entirely depopulated these fertile districts.

Having concluded to return overland to the Bay of Islands, and having obtained a supply of rice from the *capital*, the only portable article of food procurable an these parts—for we were now about entering on an uninhabited route, and that, too, without a guide—early in the morning of the 4th, we left Otahuhu, in a small canoe which we had borrowed, and paddling down the bay about four miles we landed on the north side of the harbour; continuing our course by the muddy winding shores to Te Wau, a little cove where the path leading to Kaipara commenced. Here, while my natives were engaged in cooking our breakfast, I, looking about, discovered a shrub of a genus altogether unknown to [290] me. This plant bears an oblong succulent crimson-coloured *bacca*, containing several large angular and irregularly shaped seeds; its growth is diffuse and slender with but few branches, and its height is from 5-9 feet. In *habit* alone it closely approaches to some species of the *Coprosma* genus. There were several of them here, on the immediate banks of a little rivulet which ran through this dell; I did not, however, observe it in any other locality. Continuing my journey, I found (in ascending the first clayey hill from the seaside) a handsome shrubby *Dracophyllum*; a species not noticed by Cunningham in his "*Precursor*." This shrub is from 2-5 feet in height, somewhat rigid in its growth, and branched at bottom. It will (with the other new species already mentioned, p. 266) naturally fall between *D. latifolium*, Banks; and *D. Urvillianum*, Rich., and thus well connect the whole of the already known New Zealand species. We travelled on, over open and barren heaths, in a northerly direction until sunset. Observed nothing new in these dreary and sterile wilds save the *Dracophyllum* already mentioned. Bivouacked for the night in a little dell, nestling among the close growing *Leptospermum*, not a stick being any where within ken large enough to serve as a tent pole.

The next morning we re-commenced our journey in rain. Country, for several miles, much the same as that we passed over yesterday. About noon we passed by some forests of *Dammara*, which were burning fiercely; some person or persons who had lately passed that way having set fire to the brushwood, which soon communicated to the forests. This is an event of very common occurrence in New Zealand, and is often thoughtlessly done by the natives to cause a blaze! [291] through which means many a noble forest of pines has been entirely consumed.<sup>125</sup>

Arriving at Kaipara, we found we had no means of crossing the harbour; a sheet of water, which, from where we now

125 WC: It is a very common practice with the New Zealanders in travelling (especially when passing through forests and over paths by which they will have to return), to select some noble Rata tree (*Metrosideros robusta*), or Rimu (*Dacrydium cupressinum*), of giant size, having a hollow near the root. In this hollow they make a small fire, which burns slowly on for several weeks, eating its way upwards through the tree, even to the ends of the larger branches, ere the bark becomes injured or the leaves change their appearance. I have myself seen such a spectacle as the one just adverted to—a living tree on fire! the whole heart-wood of the trunk and main branches being entirely consumed, and smoke issuing from the ends of the largest limbs, at a height of 20 feet from the ground; the leaves being still green, and apparently not at all affected by the fire which had been for some weeks burning within. The natives do this, in order to procure fire for their tobacco pipes; or rather, to save themselves the burden of carrying a tinder-box and the labour of striking a light.

stood (at the extreme southern inlet) to the nearest landing-place on the northern shore, was more than fifty miles across. Our situation at this place was rather unpleasant, no natives being near by; we preferred, however, to wait here a day or two, in hopes of a canoe arriving at the landing-place, rather than retrace our steps to Otahuhu. In this place we remained until the night of Tuesday the 8th, making fires on the brow of the hill, in order to attract the attention of the natives residing on the opposite shores of the water before us. No one, however, came; and on Tuesday, reconnoitring with my glass, I detected the roof of a hut about four miles distant, which, from its construction, I knew to belong to a white. Thither, without delay, I despatched two of my natives; who, to [292] their credit be it recorded, willingly went, although they had to force a passage through mud and under-wood the whole distance! At night they returned, with two whites, in an old patched-up and leaky boat, in which we gladly left this miserable place, where the mosquitoes were more numerous and intolerably annoying than I had ever before found them. So thick and tormenting were they at night, that I was obliged to leave my tent, and wander about in my cloak from place to place as they successively found me out. We had, in hopes of avoiding them, pitched on the top of the hill, more than a mile from the water below, but without the least change for the better.

On the morning of the 12th, after encountering no little hardship and danger, we landed near the upper end of Otamatea inlet, on the N.E. side of Kaipara. Here, the boat left us, and we soon found that our situation was ten times worse than it was before; for there was not any path, nor the slightest indication of the treading of a human foot on these solitary and pathless deserts. Return, we could not, as our boat was gone; stand still, we dared not, as our small supply of food was fast diminishing; proceed, we hardly cared to think of, not knowing whither our tortuous course would end—in a country like this, in which we now for the first time were, hemmed in among tangled brakes and primæval forests, bounded by a distant horizon of high and broken hills.. In this exigency I determined on proceeding by compass, in as straight a line as possible to the eastern coast; for, although I had not a map with me, I was well aware that the island was narrow in these parts. Words, however, fail to describe what we had to undergo, in forcing our way [293] through the horrid interwoven mass of shrubs and prickly creepers, fern and cutting-grass, and prostrate trees, and swamps, and mud! Suffice to say, that, by dint of extreme exertion, I providentially gained the sandhills at Mangawai, on the east coast, by 10 a.m. on Monday, the 14th. Descending the hilly range near the sea coast, I found I had an extensive inlet to cross, which, as the tide was flowing fast I lost no time in fording; so, plunging in, I waded to the opposite shore, the water being breast-high. I supposed my natives to be following pretty closely after me, and, having quite an appetite for my breakfast (having walked nearly six hours this morning), I commenced looking narrowly about for fresh water, continuing my journey towards the coast. Exhausted as I was, I discovered and secured, an hitherto unnoticed species of *Leptospermum*, a shrub, or small tree, growing plentifully on the high ridges of the sandhills, from 6-10 feet in height, bearing a villous capsule, apparently near *L. attenuatum*, Smith. A pretty compositaceous shrub (*Cassinia leptophylla*?) grew profusely here on the sand. Travelling on by the rocky coast, I detected in a little watercourse which trickled on the beach, a small peculiar plant, probably a species of *Chara*. It was now past noon, the day was very sultry, and I was tired, wet, and ravenously hungry in a

desolate and wild place, when, for the first time, I realised a conviction which had been for the last hour gaining ground in my mind—that I was alone! I retraced my steps to the sandhills, and sought about, and bawled repeatedly, but all in vain; nought but the loud dash of the billow as it broke on the lonely strand, with now and then the melancholy wail of the Sandpiper burst on my [294] expectant ear. My natives, somehow, had strayed into another direction, or lagged behind, so that I saw nothing more of them until after sunset on Tuesday, the 15th, when they joined me on the outer beach of Wangarei Bay.

During these two days I managed to subsist on some shell-fish (*Mytilus, sp.*) from the rocks, the scanty sarcocarp of the fruit of the *Corynocarpus laevigatus, Forst.* (the large kernel of this fruit being in its raw state an active poison), and the inner young leaves of *Areca sapida, Sol.*; this latter plant (the palm of New Zealand) affords good eating, a *bonne bouche* to any one in my situation. My natives were exceedingly happy the next night, on coming up to the spot where I had brought up for the night, and finding me safe and well. To their honour be it mentioned, that, though they were bearers of provisions, they would not touch a morsel of it during the two days we were separated from each other knowing that I was without food; saying, "What! shall we eat when our father is fasting?" Like myself, they subsisted on shell-fish and the fruit before mentioned.

On the morning of the 16th, leaving the little fishing hut in which we had passed the night, we struck inland towards Te Ruakaka; a small village a few miles from the south shore of Wangarei Bay. Arriving thither, we were hospitably received, and, having breakfasted, resumed our journey onwards. In the low rushy land between this village and the inner shore of the harbour, I discovered a species of *Lycopodium*, with axillary spikes of fructification, which was new to me; it grew together with a closely-allied species, *L. laterale, R. Br.*, from which plant, however, it differs [295] much in habit, this being erect and almost invariably bifurcate. In this locality, too, I detected another fine species of *Pterostylis*, with undulated oblong-lanceolate leaves; which will rank between *P. Banksii, R. Br.*, and my minute and truly elegant n.sp., *P. collina*. Its time of flowering had scarcely arrived when I passed; I gained, after some search, a specimen or two with unfolded perianth. Arriving at the water's side, we found, to our disappointment, that we could not obtain a canoe, all of them being in use further up the harbour. As, however, we could not cross the water without one, I sent two of my natives to fetch it, patiently awaiting their return on the solitary mud banks. While here, I was much amused in observing the predatory habits of the metallic plumaged Kotaretare (*Dacelo Leachii?*). Perched on an outstretched branch of a Mangrove tree, intently watching for the appearing of some unwary little crab from his hole in the mud beneath, the *Dacelo* quietly sits. Presently some ill-star'd wight would be seen peeping out of his dwelling, suspiciously reconnoitring about him; being satisfied that the coast was clear of enemies, he suddenly pops out and commences his irregular sideway run, when, swift as an arrow, the *Dacelo*, who has attentively beheld all his movements, pounces down, seizes the hapless little wanderer in his capacious beak, and returns to his station on the tree, with as much haste as if he knew himself to be a thief and trespassing on forbidden ground. I have often witnessed their mode of obtaining their prey, and hardly ever observed them to vary in the least, rarely venturing into the shallow water. Towards evening my natives returning

with a canoe, and an old female slave to bale! we entered our frail bark and paddled directly [296] across the harbour to the northern shore, a distance of about five miles. A heavy swell setting in, we ran some risk, but crossed in safety; landing at Tamatarau, a small village, at 9 p.m., where we passed the night. The natives of this place, and in fact the whole neighbourhood, stunk insufferably from shark oil, and the effluvia arising from thousands of the *Squalus* genus, which were hung up to dry in the sun in all directions. This bay being shallow and sandy, is a favorite resort of several species of *Squalus* in the summer season; at which time the natives congregate together, and take them in great numbers. They call them Mango, their ova, which they carefully preserve and dry, is considered a great delicacy. Several species of the genus *Raia, Linn.*, are also taken here in multitudes. I have seen the natives capture them, by plunging a long pole through their horizontally flattened bodies, when passing in a canoe over the extensive mud flats with which this bay abounds. The tail of one large species, is armed with large spines of three inches and upwards in length, which spines are deeply, closely, and sharply serrated. One pretty little species, I once saw, had a very long filiform cylindrical and smooth tail. These fish are called 'Wai, by the natives. A species of the Hammer-headed Shark (*Zygæna, Cuv.*) is sometimes met with on these shores among the shoals of its congeners in the summer. I have only seen a small one, about 2 feet 6 inches in length; the natives know them by the name of Mangopare.

The next morning we again re-commenced our march. On the clayey hills near Te Karaka, in this neighbourhood, I discovered a graceful and minute *Lycopodium*; a curious and unique little plant, scarcely two inches [297] high, bearing a yellow terminal spike of fructification on a white stalk, with few linear-lanceolate patent radical leaves, and tuberculated root. At first glance I took it for a little *Orchideous* plant; but soon found what it was in reality. I have never met with the description of any plant of that Natural Order, at all resembling this. On the high hills in this locality, I also detected an elegant and new species of *Microtis*, closely resembling *M. Banksii*, but differing in having a much shorter subulate fistulous leaf, and beautifully coloured perianth, as well as in its flowering in the autumn, that species only being seen in the spring. Here, in the forests on the hill tops, an enormous Fungus grows pendant from the larger branches of the large-leaved *Fagus*,<sup>126</sup> some of which measures a full yard across, and about eighteen inches in width and thickness. These, the natives call Putawa, and when dried use them for tinder, for which purpose they are excellent. Hitherto, I have only found them to grow on this tree. A fine plant of that truly sweet genus, *Alseuosmia, A. Cunn.*, I also discovered in these dry hilly forests. This species<sup>127</sup> is, in appearance, very near *A. linariifolia, A. Cunn.*, though differing much in habit. Its leaves, too, are longer, midrib and petioles villous, and its numerous flowers both axillary and terminal. It is the largest shrub I have yet seen of the genus; growing to the height of 5-7 feet. In the forests, [298] a little further on, I

126 WC: Vide, mention made of this *Fagus* (a fine species discovered by W.C. in 1839), Note, p. 234.

127 WC: A. HOOKERIA, MSS., W.C., ined. *A. linariifolia*, is thus described:—"Foliis (uncialibus) lineari-lanceolatis acuminatis margine revolutis, floribus terminalibus solitariis aggregatisve, ramulis virgatis pubescentibus."—A.C. in Ann. Nat. Hist. vol. ii. p. 209.

detected a new species of *Mira* (another new genus of A. Cunn.'s), a small graceful tree bearing elegant blossoms.<sup>128</sup> The wood, of the different species of this genus, is very hard, dark, and heavy, and is used by the natives in making walking-staffs, spears, and, in former times, implements of war. The native name, Maire (whence the generic appellation), is proverbially applied, when speaking of any obstinate determined person. A new species of *Coprosma*,<sup>129</sup> I also detected in these woods; a slender shrub with long drooping filiform branches. Proceeding on, through the forests, I discovered two, if not three, small aromatic trees of a genus evidently belonging to the Natural Order *Winteraceæ*; one of which, a handsome tree, had large obovate shining leaves. A species of the same genus I had before detected in the humid forests on the mountains near Waikare Lake. A fine and handsome species of ? *Myrsine*; an elegant tree, 20-35 feet high, with a full branched head, long linear leaves, and straight and smooth bark; often found on the skirts of woods in dry hilly situations. A dwarf species of the *Melicytus* genus;<sup>130</sup> a small tree, 6-7 feet high, apparently an intermediate species between *M. ramiflorus*, Forst., and *M. macrophyllus*, A. Cunn. A curious parasitical black *Fungus*, hanging suspended like a black ball of fine silk by a thread of the same texture [299] to the fruit of a Cyperaceous plant; together with several specimens of *Musci*, *Jungermannæa*, and *Fungi*.

Crossing the mouth of Horahora creek, in the evening at low water, a small red-coloured fish swam towards us, and bit a toe of the native who was carrying me. I immediately got down and captured the little assailant, putting him into my specimen bottle. It was a curious little scale-less fellow, about three inches in length, with a large broad compressed head, eyes distant, red and sunk, wide mouth, projecting jaws, numerous small and pointed teeth, pectorals very large, ventrals forming somewhat of a reniform and concave disk, and dorsal small and near the tail; it may possibly prove to be a new species of *Cyclopterus*, Linn.

Late at night we arrived at Ngunguru, a village near the coast, situate on a river of the same name navigable for small vessels. Here, I obtained a few John-dory (*Zeus*, sp.), which the children captured in the shallow water at the ebb tide. It appeared to differ but little from the common English species. The natives call it, Kuparu.

Leaving Ngunguru the next morning in a boat, the sea being very calm and the wind favorable, a voyage of six hours brought us to Owae, a small village in Wangaruru Bay. Here we landed and remained during the sabbath.

On the high southern headland of Wangaruru Bay (near which we landed), I discovered a clump of small trees, bearing a handsome fruit of the size of a large walnut. Each fruit contained three large shining seeds somewhat crescent-shaped, and having the front as it were scraped away. Its leaves are oblong glabrous and much veined, arid its young

branches lactescent. I [300] have little doubt but that this tree will be found to rank in the Natural Order *Sapotaceæ*, and probably under the genus *Achras*. The natives call it, Tawaapou.

At Owae I obtained a fine specimen of *Scolopendra*, measuring nearly six inches in length, and beautifully coloured with brown and blue. I found it beneath the bark of a decayed *Dammara*. It bit my native lad, in seizing it, through his thick-skinned hand, which it caused to bleed; neither swelling nor great pain, however, followed. The wood of the *Dammara* (especially when decaying) is often found pierced with large cylindrical holes, extending a great way into it; this is the work of the *Larvae* of some insect at present unknown to me. I have, however, several of the *Larvae*, which are large, wrinkled, and of a dirty-white colour, with a black head. Some measure from four to six inches in length, and are proportionably thick. The natives call them, Huhu, and consider them a great delicacy! devouring them greedily when roasted. Here, too, I detected an active little insect of the scorpion family, or rather (being tailless) of the genus *Chelifer*, Geoff. This small insect is about four lines in length; its body somewhat oval, grey, and annulated; its palpi red and elongated, with forceps resembling a hand, which, when at all checked in its movements, it raises and opens in an attitude of defence. It runs very swiftly, and equally well backwards as forwards, or sideways like a crab. Near logs of wood and roots of trees, I noticed the *Larvae* of some species of the *Myrmeleon* genus, hidden at the bottom of their funnel-shaped cavities in the sand; which much resembled those of *M. formicarium*, Linn. Its body is about 4-6 lines in length, and is of the colour of the sand it lives in. A fine dark-coloured [301] bulky *Scarabæus*, I also obtained; together with several elegant and graceful species of *Sphinx* and *Phalæna*. One of the *Sphinges* being the parent of the *Larvae* on which the curious parasitical *Fungus*, *Sphaeria Robertsii*, is produced. Two species of the *Phalænae* were particularly interesting; one, a small species, whose wings were of a delicate and bright grass-green colour studded with triangular spots of the deepest black;—the other, a large downy species (?*Pyralis*, Fab.), with brown wings having oval silver spots in relief, peculiarly arcuated and raised, upon its body, and four distinct and plaited red crests on its back, the upper one being nearly two lines in height.

On a tall branching Pohutukawa tree (*Metrosideros tomentosa*), which grew on the rocky cliff at the northern end of the beach of Owae, I observed several Cormorants (*Pelecanus*, sp.) had built their nests. These birds had inhabited this tree for many years; yearly increasing the number of their nests, which they build of dry *Algæ*, sticks, and small plants. Their social habits and large nests, forcibly reminded me of an English rookery. Two species inhabit these shores; one, with entirely black plumage, which the natives call Kauau—the other, with white fore-neck, breast, and belly, and olive-black neck, back, and wings, called by them Karuhiruhi; this last is the most common.

From the rocks near this village, I obtained fine specimens of that peculiar univalve, the *Parmophorus*. The shell of this animal is almost entirely hidden with its large dark-brown and fleshy mantle, which curves upwards quite around. Some of these *Mollusce* would, doubtless, weigh from eight to twelve ounces each. It is found adhering under *Fuci* in the hollow sides of [302] rocks below low-water mark. Its flesh is eaten by the natives, who call it, Rori. On these

128 WC: MIRA UNDULATA (MSS., W.C., ined.), foliis obovato-oblongis, acuminatis undulatis integerrimis. Arbusculis, 12-20 pedalis, et ultra.

129 WC: COPROSMA ARCUATA foliis (parvis) obovato-oblongis sub-spathulatisse truncatis seu emarginatis basi attenuatis petiolatis glabris subfasciculatis, margine incrassatis; ramis valde arcuatis dependentibus, ramulis villosis; caulis arbusculus sesquiorgyalibus gracilis.—W.C., MSS., ined.

130 WC: MELICYTUS COLLINA, W.C., MSS. ined, 1842.

rocks I noticed several fine species of the genus *Chiton*, some measuring more than two inches in length.

The natives of this village, who had been lately fishing, had taken several very fine Kokiri (*Balistes, sp., Linn.*); some being a foot in length. This fish they greatly prize; its large liver especially being a dainty. This species has a very large moveable spine between its head and its back, a little before its dorsal, which it can erect at pleasure, and (reasoning from appearance) use as a weapon of defence. Its skin is of a dirty-olive colour, and rough, resembling shagreen.

From these natives I obtained a large and peculiar species of *Asterias*, smooth and of a red-colour, with a pentagonal-circular body of 1½ inch diameter, and five cylindrical and tapering rays, each ray 10 inches long, compactly covered with imbricated scales; the scales on the upper part of the rays being broadly lateral, each scale being minutely dotted with dark red in two rows; while those on the sides of the rays consisted of alternate rows laterally and longitudinally placed, one long narrow scale (lat.) being between 9-12 short (long.) ones; the scales in the undermost row were almost square and notched at the apices. The natives themselves had looked on the animal as being a curiosity; they give the different species of the *Asterias* genus (of which there are several here), the appellation of Korotupa.

Along the shore lay several *Zoophyta*, common to these seas in the summer season. Among them were species of *Medusa*, and *Physalia* (*P. pelagica?*); the last still retaining their lovely ultra-marine colour. [303] These, the natives distinguish by the name of Aumoana. Routing over a heap of cast up *Algae*, I found what appeared to have been the air-bladder of a fish; it was complete, stout, semi-transparent, and inflated, about 6 inches long by 2½ inches wide, and forked throughout three-fourths of its entire length. The natives assured me, it was the air-bladder of a fish of the *Diodon* genus, with which they were well acquainted, and to which they had given the very appropriate name of Koputotara, i.e. Prickled-belly. These air-bladders are sometimes used by the natives instead of small calabashes for the purpose of holding liquids, such as oil, ink, &c. A large *Cephalopod* (*Sepia, sp.*), with long formidable-looking tentacula studded with large tubercles, I also noticed.

The village of Owae, being built on a sandy spot close to the sea, the sand flies are here exceedingly numerous and annoying. When at this place, in 1839, I detected a very tall and graceful fern-tree (*Cyathea dealbata*) growing by the river side. Sending one of my native lads to the top of the fern to measure its height, I found it to be upwards of 38 feet. Another arborescent fern of the same species, which I subsequently discovered in a wood in the neighbourhood, was three-branched at about 5 feet from the ground, each branch being 4 feet in length, and bearing a fine head of living fronds.

Leaving Owae in a canoe, on the morning of the 21st, we paddled across Wangaruru Bay, and by noon gained the upper end of Wangaruru River. This salt-water inlet is famous for a species of Grey Mullet (*Mugil*—), which is very numerous. It is a particularly interesting sight, and one that invariably gives an [304] additional beauty to the delightful scenery of the New Zealand rivers, to witness this sportive fish leaping out of the water on a still fine summer's evening. It is not an unusual thing for one of those fish to leap into a passing canoe. In some rivers, where they are very plentiful, the natives moor their canoes off in the stream on a fine night, and are sometimes

rewarded with a fine fish or two for their trouble. The New Zealanders, however, take them in large quantities in their nets.

Landing at Tutaimatai, at the head of the river, we proceeded on over Te Ranga, a high hill, from the summit of which on a clear day the traveller has a most magnificent and picturesque bird's-eye view, extending over the whole of the Bay of Islands, and northwards beyond the Cavalles. The dense forests of *Dammara* and other pines, with their foliage of every hue, cresting the hills in the immediate foreground, and spreading up the steep sides of the eminence beneath his feet, heighten, not a little, the surpassing loveliness of the scene. Those gallant little gentlemen, the *Cicadae*, who make—

"Their summer lives one ceaseless song,"

were rattling away at a merry rate on the different trees and shrubs around. Of these insects, several species inhabit New Zealand. One species of a light emerald-green, and another of a golden colour, are peculiarly charming: the natives call them, Tatarakihi. Descending Te Ranga, I detected, growing in a mossy bank, a fine *Pterostylis*, with numerous lanceolate bracts, its radical leaves and perianth much like those of *P. collina*, with which elegant species it has close affinity. Passing through a swamp at the base of the hill, a fine bird of the *Ardea* genus, rose gracefully and slowly [305] from among the rushes. This bird, which resembles very much the English Bittern in its general appearance, is large, being upwards of three feet in length, and is very shy, mostly remaining solitary in swampy places. Its plumage has a very elegant appearance, being of a light colour underneath, and reddish-brown on the back and wings, dappled with black. Its bill and legs are of a delicate yellowish-green colour. The native name for this bird is, Matukuhurepo. In about three hours from our leaving the landing place at the head of Wangaruru River, we arrived at Waikare, a village situate on the inner waters of the Bay of Islands.

It was from the woods in this locality, that I first obtained specimens of the Para, a fine fern of the *Marattia* genus, whose curiously jointed and bipinnate fronds attain to the height of 10-13 feet. This plant was formerly in great request among the natives, the large gibbous fleshy and vaginant bases of its petioles, being an article of food of the first quality. Hence its scarcity, a few plants only being found remaining in the deepest and darkest recesses of the forest. The largest tree fern I have yet seen, I found in these woods. It was a *Cyathea medullaris*, and measured, from its base to the springing of its petioles, 42 feet! My admiration and astonishment were greatly increased, on detecting this fine fern, and ascertaining its height, as all of this species I had hitherto seen seldom attained a greater altitude than 10-12 feet; and A. Cunningham (in *Comp. Bot. Mag.*, v.ii., p. 368), speaking of it, says, "Caudex *orgyalis*." Here, too, I noticed a splendid plant of *Fuchsia excorticata*; quite a tree, being 21 feet [306] in height, and 2 feet 9 inches in girth; bearing a profusion of lovely blossoms and fragrant edible fruit. Don (*Syst. Bot.*, v.ii., p. 679), describes this species as "a shrub from New Zealand, 2-3 feet in height."

At Waikare I remained during the night, and, on the next morning, the 22nd, obtaining a boat, a row of three hours returned us in safety to Paihia, one of the Church Missionary Society's stations in the Bay of Islands. In our passage down the Waikare River, several fine Gannets (*Sula, sp.*) attracted our attention. We pursued one,

swimming on the water, and very nearly seized him. In order to escape us, and just as our boat was upon him, he disgorged a large fish which he had recently swallowed, and took to flight. This fish measured 11 inches in length, and 9 inches in girth, and was quite whole. The natives often take this bird by watching its movements, and giving chase directly after it has gorged itself with food, when it is easily taken. They call it Takupu. A small but graceful species of Garfish (*Belone, Cuv.*), hastening away from its voracious pursuers, flew, or rather sprung, into my boat. This fish is common here in the summer months. Its under jaw alone is produced. It swims in shoals, and often scuds along on the surface of the water, sometimes taking a long leap, especially when pursued by larger fish. It is very delicate eating, and is justly esteemed both by whites and natives. The natives take them in large quantities with small nets. Here, they call them, Takeke; but among the southern tribes, Ihe.

In concluding this somewhat incongruous collection of Memoranda, I would embrace the opportunity of stating, as my decided opinion, that New Zealand [307] presents a fine field of labour to the Naturalist, particularly in cryptogamic botany, conchology, and entomology. It is true, that here we cannot boast of many indigenous natural productions serviceable to man, nor of a showy flora, nor of splendid insects, such as many other and neighbouring countries can produce; yet the truly careful observer will soon perceive, that the productions of New Zealand are, generally speaking, peculiar to herself, and highly curious in structure.

Lastly, I would briefly remark, that the more I see of this country—now my adopted one—the more I feel assured that she is still but very imperfectly known, both in her productions and capabilities. Arising, I am persuaded (at least as far as her capabilities are concerned), more from carelessness and ignorance, or design, than from any other assignable reason. The soils, in particular, of New Zealand, have been represented as possessing a fertility unparalleled, and such everywhere abounding to an almost unlimited extent! Nearly ten years of residence (during which period a good share of travelling and numerous opportunities of obtaining the most correct information) has, however, convinced me, that such is far, very far, from the truth. Few, indeed, are the districts, which can in any sense be termed fertile; and where such exist, the native population is generally very great.

New Zealand (the North Island) is, on the whole, a barren country; and—bearing in mind the absolute and prior claims of her own sons—unavailable to the stranger to any very great extent for agricultural purposes. Nor must it be forgotten, that her best and most fertile portions (few though they be) are still in [308] the hands of her children; whose eyes are now opening to the fact, that they cannot part with such lands to the foreigner without detriment to themselves or their descendants. Her natural productions—her fisheries, her metals, her timber, her flax, her pork, and her barks for dyeing and tanning—will, doubtless, prove an inexhaustible mine of wealth; but, ere these can be available, the spirit of labour and industry, of energy and alacrity, must be infused into her present occupiers; contentment and unity must dwell among us—and self denial be extensively practised.

Bay of Islands, New Zealand,  
January, 1843.

P.S.—The total number of specimens in Natural History, collected and observed by me in this excursion, may amount

to nearly 1,000, of which I have had the pleasure of transmitting to Sir W.J. Hooker, upwards of 600, being about the number I considered new; two thirds of which, at least, I can but suppose to be at present unknown to science. It is chiefly in consequence of my having done so that I have not cared minutely to particularize or describe the greater number, knowing that that gentleman—and who more eminently qualified?—will not fail to do so.—W.C.

### 1846 A classification and description of some newly discovered ferns collected in the northern island of New Zealand in the summer of 1841-2.

*Launceston Examiner, Launceston. 29p; reprinted Tasmanian Journal of Natural Science, Agriculture, Statistics, Etc; 2: 161-189.*<sup>131</sup>

It is now nearly seven years since a monograph on the then known botany of the islands of New Zealand, from the pen of the late Allan Cunningham, Esq., first appeared in the pages of the second volume of the *Companion to the Botanical Magazine*, which paper was continued and completed (on the discontinuance of that work) in Vols. I.-IV. of *Annals of Natural History*. This “precursor” of the botany of this increasingly interesting country contained 639 species<sup>132</sup> of plants, nearly the whole of which have hitherto been detected only in these islands. This enumeration embraced the published discoveries of those truly eminent men, Sir Joseph Banks and Dr. Solander, who accompanied our illustrious [162] circumnavigator, Cook, on his first voyage to these seas in 1769; as well as those of the Forsters who also accompanied Cook on his second voyage of discovery in 1772; of Menzies, who, in Vancouver’s ship, visited these islands in 1791; of M. Achille Richard in 1822; of D’Urville and M. Lesson in 1827; and other later botanists. More, however, than a fourth part of the whole number, comprising several new and. interesting genera, was discovered by the two brothers, Messrs. Allan and Richard Cunningham; of whom, indefatigably attached as they both were to the pursuit of their favourite science, it may be truly said they fell victims in their laudable attempts to make known the botanical treasures of a fair portion of the southern hemisphere. To this number Mr. Allan Cunningham in his last visit to New Zealand, in the year 1838, made an addition of several plants peculiar to the northernmost part of New Zealand.

The number of species of Ferns, published in the “Precursor” amounts to eighty-five; from which, I venture to hazard an opinion, at least two species—*Niphobolus bicolor* and *Doodia caudata*—will have to be deducted; as, I, believe, these will be found to be merely varieties of *N.*

131 The two publications use the same blocks and are almost identical.

132 WC: “If to this aggregate number of species thus got together and here enumerated sixty be added, as in all probability comprehending the remaining number of plants of the first voyage of Cook, which are preserved in the Banksian Herbarium and continue yet unpublished, seven hundred distinct plants may be said to be the number at present known of the flora of these islands.”—A. Cunn, in Comp. Bot. Mag., vol. ii., p. 230.

*rupesiris* and *D. aspera*. To the total number Mr. C. added four more on his last visit; namely, *Gleichenia arachnoidea* and three species of *Lomaria*—*L. crenulata*, *L. gigantea*, and *L. polymorpha*. During the few remaining months of Mr. C.'s life I had the pleasure of discovering and forwarding to him a few additional species of the following genera, *Nothochlaena*, *Cheilanthes*, *Aspidium*, *Adiantum*, *Lomaria*, *Marattia*, and *Hymenophyllum*. Since that period I have been fortunate enough to discover a few others, which have been sent to England to Sir W.J. Hooker, by whom they have, without doubt, been fully investigated and published ere this. It was, however, in a journey which I undertook in the summer of last year that I discovered the majority, of these contained in this paper. [163]

I am not aware of any one of these Ferns now described by me ever being seen by any botanist; they certainly are not mentioned in any works on botany at present in my possession; and considering the localities whence they were obtained, together with my never having noticed them in the many parts of New Zealand in which I have at various times travelled, I can but deem them new to science.

The arrangement I have adopted is that of Sir W.J. Hooker and Dr. Lindley, as given in the second edition of *A Natural System of Botany* by the latter gentleman.

The total number of New Zealand Ferns now known, exclusive of varieties, is about 140 species of these I have very nearly 120 species in my herbarium.

#### ORDER—POLYPODIACEÆ.

##### (I. Nudæ.)

##### §. POLYPODIEÆ, Bory.

##### *Polyodium*, Sw.

*Sporangia venis imposita*, in *soros* subrotundos sparsos seriatosve collecta. *Indusium nullum*. *Endl.*

**1. P. SYLVATICUM**,<sup>133</sup> n. sp. *Plant*, few fronded, erect, villous, terrestrial. *Frond*, lanceolate, acuminate, acute, bipinnate, 16–24 inches; colour, dark green. *Pinnules*; *primaries*, oblong-lanceolate, acute, subacuminate, petiolate, alternate, remote: *secondaries*, trapezio-falcate, setose, cuneate at base, petiolate, alternate, subpinnatifid, 7–9 lobed: *lobes*, oblong and somewhat falcate, mucronate, serrate, less serratures on lower edge than on upper, decurrent, alternate: *Sori*, round, *Aspidium*-like, thickly set, 2–3 on a lobe. *Rachis*, *Stipe*, and *Petioles*, channelled on upper surface, and densely scaled. *Stipe*, 6–8 inches long. *Scales*, at base, very long and bordered. *Root*, fibrous.

*Hab.* In rich alluvial soil, low, shaded, and damp woods, near Tolaga Bay, E. Coast; Dec., 1841.

*Obs.* A smaller variety of this Fern was also obtained by [164] the discoverer from the forests on the mountains near Waikare Lake, the fronds of which (including stipe) measured only 6–9 inches in length; it was, moreover, more acuminate, and serratures of lobes more spinous.

This Fern has very much the appearance of an *Aspidium*, to which genus it was supposed it must belong. From a close investigation, however, of several fronds in different stages of fructification without meeting with any vestige of an

*indusium*, it has been referred to *Polyodium*. It possesses several characters in common with *Aspidium Waikarense*, (n. sp., vide n. 7, seq.) with which plant it is very likely at first sight to be confounded.

**2. P. VISCIDUM**,<sup>134</sup> n. sp. *Plant*, sub-erect, drooping, somewhat lax, thickly tomentose, viscid and villous, terrestrial. *Frond*, oblong-lanceolate, sub-acuminate, bipinnate, 8–24 inches; reddish-green. *Pinnules*; *primaries*, oblong-lanceolate, acuminate, sub-acute, broadest at base, petiolate, alternate, very remote: lowermost sub-opposite: *secondaries*, linear-oblong, sub-acute, alternate and sub-opposite, distant, somewhat reflexed; uppermost pinnatifid; lowermost petiolate: *segments*, oblong, broadest at base, crenate, sessile, sub-opposite, sub-revolute; *veins*, transparent. *Sori*, rotund, sub-marginal, regular, bifariously disposed on each segment of frond; generally a sorus at every sinus. *Stipe*, 4–8 inches, channelled on upper surface, brittle, reddish brown. *Caudex*, creeping, thickly tomentose.

*Hab.* Dry sandy places, on mountains near Waikare Lake; Dec., 1841. Also, neighbourhood of Bay of Islands, in elevated and dry spots, margins of woods; 1838.

*Obs.* I have, with some hesitation, referred this Fern to *Polyodium*; from its not having, however, any *indusium*, &c., I have been led to assign it to that genus. Both this and the preceding species differ widely in habit from the species of *Polyodium* hitherto discovered in New Zealand. The whole plant is very glutinous from which cause it is [165] generally found covered with the *Cypselæ* of *Compositæ*, small moths and flies, and other insects; insomuch that it is rather a difficult matter to procure good specimens for an herbarium. In general the lower pinnules on the fertile fronds are found in a withered and circinate state, whilst the upper part of the frond has scarcely gained maturity.

##### §. HEMIONITIDÆ, Freyc. et Kaulf.

##### *Gymnogramme*, Desv.

*Sporangia venis primariis furcatis pinnatisse imposita*, in *soros* lineares oblongosve collecta. *Indusium nullum*. *Endl.*

**3. G. NOVÆ ZELANDIÆ**,<sup>135</sup> n. sp. *Plant*, small, cæspitose, erect, glabrous, terrestrial. *Frond*, ovate or ovate-lanceolate, or deltoid-ovate, obtuse, membranaceous, bi-pinnate or pinnate-pinnatifid, 6–20 lines long. *Pinnules*; *primaries*, trapezio-ovate, obtuse or emarginate, petiolate, margined, alternate, remote: *secondaries*, flabelliform, mostly deeply three-cleft, alternate petiolate; petioles short: *segments*, bifid: *lobes*, somewhat cuneate-linear, emarginate or obtuse, entire; *veins*, simple, forked. *Sori*, oblong, forked, thick and confluent, on furcate veins of lobes, nearly covering the whole under surface of segments. *Sporangium*, obovate, reticulated, sub-sessile, membranaceous, whitish; annular, incomplete, cinnamon-coloured. *Sporules*, sub-deltoid, triangular, obtusely angled, dotted, glossy, blackish. *Rachis* and *Stipe*, semi-terete, brittle, deeply channelled on upper surface, shining, red; *Stipe*, 1–2 inches. *Root*, fibrous; *fibre*s, densely clothed with long silky hairs.

*Hab.* In sheltered grassy spots among scoriæ, on dry volcanic hills, between Manukau Bay and Tamaki Creek, about ten miles from Auckland; 1842.

134 *Hypolepis amaurorachis* (Kunze) Hook.

135 *Anogramma leptophylla* (L.) Link.

*Obs.* This elegant little Fern is the only species of *Gymnogramma* yet discovered in New Zealand. It grows plentifully on those hills, where it is an annual, being invariably withered up and destroyed with the heats of summer. [166]

*Grammitis, Sw.*

*Sporangia* venulis simplicibus v. bifurcarum cruri superiori imposita, in *soros* lineares v. subrotundos collecta. *Indusium* nullum. *Endl.*

**4. G. CILIATA,**<sup>136</sup> n. sp. *Plant*, small, cæspitose, submembranaceous, epiphytical. *Frond*, simple, linear-lanceolate, obtuse, much attenuated at base, sub-sessile, 1–2 inches long, 2–3 lines broad, margin entire, sub-revolute, and beautifully ciliated with white translucent hair; upper surface slightly, and lower thickly, villous, with long white hair; colour, light green; mid-rib, sub-flexuose, blackish. *Sori*, oval or oblong, large, thick and crowded. *Root*, fibrous and tomentose.

*Hab.* On trunks of living trees, humid woods, Bay of Islands; 1841. And, in similar situations, shores of Waikare Lake, in the mountainous district in the interior, five days journey W.S.W. from Poverty Bay, E. Coast; Dec., 1841.

*Obs.* A species, in affinity, very near *G. australis*, R. Br.; from which, however, it differs, in being villous and ciliated, in having its *sori* more prominent and crowded, as well as in its being a much smaller plant. The fine ciliated hairs on its margin present a most beautiful appearance in the living plant, but unfortunately they fall off with the most careful handling.

(II. *Indusiatae.*)

**§. ASPIDEÆ, Bory.**

*Aspidium, Sw.*

*Sporangia* receptaculo columnari, ex apice, medlo v. anastomosi venularum tumescenti imposita, in *soros* subrotundos sparsos seriatosve collecta. *Indusia* receptaculo continua, subrotunda, pellata, margine undique libera. *Endl.*

**5. A. CUNNINGHAMIANUM,**<sup>137</sup> n. sp. *Plant*, climbing, few-fronded, pendulous, coriaceous, glabrous, epiphytical. *Frond*, triangular or rhombic-ovate, acuminate, bipinnate; length, [167] fourteen inches; breadth at base, nine inches; very remote from each other on caudex; colour, light green. *Pinnules*; *primaries*, ovate or triangular-falcate, acuminate, acute, petiolate, alternate, distant; lowermost sub-opposite; uppermost pinnatifid and decurrent; *secondaries*, oblong-lanceolate somewhat falcate, acute, not crowded, petiolate, sub-opposite; upper ones sessile, crenate, and lobed: *segments* and *lobes*, bi. tri. and quadri-fid, acute and obtuse. *Sori*, semi-sphæroidal, very prominent, on extremities of smaller veins, not marginal, pitted, sub-opposite, not crowded. *Indusium*, peltate, corrugated. *Capsules*, numerous. *Petioles* and *Rachis* towards apex, margined and scaled. *Scales*, very long, light brown. *Stipe*, smooth, brittle, channelled, scaled, 12–14 inches long; colour, light yellow-brown: *base of Stipe and Caudex*, densely clothed with large scales imbricated and adpressed. *Caudex*, creeping, succulent.

136 *Stet.*

137 *Pneumatopteris pennigera* (G. Forst.) Holttum.

*Hab.* On small living trees in the shaded dense and damp forests near Ruatahuna, a village in the mountainous district in the interior, five days journey S.S.W. from Wakatane, Bay of Plenty, E. Coast; Jan., 1842.

*Obs.* This climbing Fern, by far the largest yet detected in New Zealand, (some fronds measuring, including stipe, near three feet in length) appeared to be very scarce, a few plants only being seen. It has been named by the discoverer in memory of his much lamented friend, that amiable and indefatigable botanist, the late Allan Cunningham, Esq.

**6. A. PULCHERRIMUM,**<sup>138</sup> n. sp. *Plant*, well fronded, tall, somewhat squarrose, flaccid, terrestrial. *Frond*, lanceolate, bipinnate, sub-membranaceous, villous underneath, 24–30 inches. *Pinnules*; *primaries*, linear-lanceolate, acute, mucronate, petiolate, alternate, remote, brachiate; uppermost much flaccid; *petiole*, channelled and densely scaled: *secondaries*, trapezio-rhomboïd, slightly falcate, cuneate at base, acute, mucronate, cut-serrate, petiolate, alternate, remote, regular; lowest *lobes*, bi-tri-serrate and obtuse; [168] uppermost confluent and decurrent; slightly striated on upper surface. *Sori*, small, ranged alternately in two rows, one row on either side of mid-rib of segment, 5–7 on each segment, not crowded. *Involucre*, orbiculate, peltate, delicately wrinkled. *Rachis*, channelled, densely covered with hair, and large and beautiful scales. *Stipe*, thickly scaled, 9–15 inches long. *Scales*, ovate, acuminate, bordered, those at base laterally plaited; 1–2½ inches in length. *Root*, fibrous.

*Hab.* In decomposed sandstone soil, dense shaded forests, on the mountainous range, near Waikare Lake; Dec., 1841.

*Obs.* This beautiful Fern grows to a large size in its native forests, some fronds measuring (including stipe) near four feet in length. The outer fronds of the plant spread outwards, depressed in a most graceful manner, while the inner young and very flaccid fronds retain an elegant sub-erect position. One of the most enchanting woodland scenes I ever witnessed was on those mountains where this beautiful Fern, with its elegant congeners, *Todea superba*, (n. sp., vide n. 33, seq.,) and *Lomaria rotundifolia*, (n. sp. vide n. 22, seq.,) heightened with their lovely foliage the surpassing beauty of the scene.

**7. A. WAIKARENSE,**<sup>139</sup> n. sp. *Plant*, few fronded, erect, coriaceous, terrestrial. *Frond*, lanceolate, acute, bipinnate, 7–16 inches. *Pinnules*; *primaries*, oblong lanceolate, acute, broadest at base, petiolate, alternate; lowermost sub-opposite: *secondaries*, sub-rhombic-ovate, falcate, cuneate and slightly auricled at base, mucronate, unequal, petiolate, pitted, bi-serrate; serratures acute and obtuse; glabrous, or very slightly villous, above; slightly villous underneath; lowermost pinnatifid, flat and sub-imbricated on rachis. *Sori*, large, crowded, ranged alternately in two rows, mostly five on a segment, sometimes 6–2. *Involucra*, peltate, orbicular, and wrinkled. *Stipe*, *Rachis*, and *petioles*, channelled, villous, and densely scaled to apex. *Stipe*, 2–4 inches. [169] *Scales*, large, ovate-acuminate, glossy, striated longitudinally, revolute and sub-imbricated on *Stipe* and *Rachis*. *Root*, fibrous.

*Hab.* In forests near Waikare Lake, with preceding; Dec., 1841.

138 *Polystichum vestitum* (G. Forst.) C. Presl.

139 *Polystichum vestitum* (G. Forst.) C. Presl

*Nephrodium*, Mich.

*Sporangia receptaculo e medio venae intumescenti imposita, soros subrotundos, seriatis formantia. Indusium reniforme, hinc sinu affixum. Endl.*

**8. N. PENTANGULARUM,**<sup>140</sup> n. sp. *Plant*, few fronded, erect, pilose, terrestrial. *Frond*, five-angled, acuminate, sub-acute, bipinnate, 7–10 inches; nearly as broad across at lateral angles as long. *Pinnules*; *primaries*, oblong-lanceolate, acuminate, acute, broadest at base, petiolate, alternate, unequal, decurrent near the top; uppermost confluent; upper half of uppermost pinnae largest, lower half of lowermost pair largest; *secondaries*, oblong-lanceolate, bifid and acute, petiolate, alternate, decurrent, pinnatifid, and deeply lobed; lower secondaries of lowest pair of pinnules sub-pinnate and very long: *lobes*, opposite, serrate, bi-trifid, obtuse and acute. *Sori*, thick, sub-marginal, bifariously disposed on lobes, one being at each sinus. *Stipe* 8–13 inches, channelled and villous, thinly squamose towards base. *Root*, creeping and fibrous, scaly.

*Hab.* Low wet grounds, margins of shaded woods, East Coast; 1841. And, in similar situations, near the Bay of Islands, where it was originally discovered in 1837.

*N. pentangularum*; W.C.'s., MSS., ined.; 1837.

**§. ASPLENIEÆ, Frey et Kaulf.***Asplenium*, L.

*Sporangia venis transversalibus imposita, in soros lineares collecta. Indusia membranacea, e vena lateraliter orta, versus costam libera. Endl.*

**9. A. HOOKERIANUM,**<sup>141</sup> n. sp. *Plant*, small, flaccid, terrestrial. *Frond*, oblong-lanceolate, bipinnate, 4–5 inches. [170] *Pinnules*; *primaries*, rhombic-ovate, obtuse, petiolate; *petioles* long; alternate, very remote; uppermost pinnatifid: *secondaries*, fan-shaped or obovate, cuneate at base deeply crenate or slightly lobed, petiolate, alternate, distant; *lobes*, 2, 3, 4, in a segment, emarginate obtuse or slightly acute; glaucous. *Sori*, oval, very thick; lowermost 2–3, uppermost 1, on each segment. *Involucrum*, membranaceous. *Rachis*, *Stipe*, and *Petioles*, dry and somewhat chaffy. *Stipe*, 1–2 inches long, fimbriated at base; whitish. *Root*, fibrous.

*Hab.* Under volcanic conglomerate rocks, valley of Hinuera, between Tauranga (Bay of Plenty) and the River Waikato; January, 1842.

*Obs.* I have done myself the very great pleasure of naming this graceful Fern in commemoration of J.D. Hooker, Esq., M.D., &c., &c., who, as assistant-surgeon and botanist, visited this island in H.M.S. *Erebus*, in the winter of 1841: and with whom I had the unalloyed gratification of botanizing in the woods of New Zealand.

**10. A. COLENSII,**<sup>142</sup> n. sp. *Plant*, small, sub-erect, cæspitose, terrestrial. *Frond*, lanceolate or (when old) oblong-lanceolate, bi- or sub-tripinnate, floccosely villous, especially underneath, 3–5 inches. *Pinnules*; *primaries*, oblong-lanceolate, acute, petiolate, alternate or sub-opposite, somewhat remote; lowermost bipinnate;

*secondaries*, pinnatifid, acute, bifid, entire, alternate, rather distant; lowermost pinnate, 14–4 on a petiole; uppermost confluent, decurrent; *sub-divisions*, oblong-ovate, bi-tri- and quadrifid, 5–9 lobed; *lobes*, ovate or linear-lanceolate; light green. *Sori*, oblong-lanceolate, lowermost 3–4, uppermost 1–2, on a sub-division. *Involucrum*, membranaceous. *Rachis*, *Stipe*, and *Petioles*, very villous. *Stipe*, 1–2 inches long; whitish. *Root*, fibrous.

*Hab.* In clefts and on shaded rocks, dry places, on the borders of Waikare Lake; Dec., 1841. [171]

*Obs.* In affinity this Fern approaches very nearly the preceding. The fewer and wedge-shaped segments, thick incrassated sori, lax appearance, more distant pinnae, and much less villosity of *that* species, sufficiently distinguishes it from this.

**11. A. FORSTERIANUM,**<sup>143</sup> n. sp. *Plant*, very long, pendulous, sub-coriaceous, scaly and floccosely-rammentaceous; epiphytical. *Frond*, oblong-lanceolate, acuminate, pinnate, 24–30 inches. *Pinnules*, rhombic-lanceolate, somewhat falcate, much acuminate, caudate, sub-acute, cuneate at base, petiolate, alternate, distant, unequal, veined, cut, 14–20 lobed; lowermost pinnae sub-opposite: *lobes*, sub-pectinate, decreasing in size and number of teeth to apex; middle lobes of pinnule sub-opposite: *teeth*, in each lobe, upper half of pinnule, 15–1; lower half, 6–1, decreasing proportionately, sub-acute. *Involucrum*, linear, very long, entire, diagonal with mid-rib of pinnule, dehiscing in pairs one against another. *Petiole*, *Rachis*, and *Stipe*, densely woolly and scaly; the two latter deeply sulcated on upper surface; brittle, red-brown. *Root*, fibrous.

*Hab.* On trunks of living trees in the dense forest between Tauranga and Rotorua, near the Bay of Plenty, E. Coast; Jan., 1842.

*Obs.* Only one frond of this truly elegant Fern was brought away by the discoverer; who, at the time of gathering, supposed it to be a fine specimen of *A. falcatum*, Forst., on careful examination and comparison, however, it was found to be a new and distinct, though closely allied, species. It has been named after that celebrated botanist, who did so much, under such very great disadvantages, in making known the botany of New Zealand.

**12. A. OBLONGIFOLIUM,**<sup>144</sup> n. sp. *Plant*, sub-erect, terrestrial. *Frond*, somewhat cordate, five-angled, pinnate, glabrous, villous in dots on under surface and margin, 6–8 inches long. *Pinnules*, 4–5 pairs, linear-oblong, obtuse, [172] crenately-serrulate, petiolate, opposite, remote, patent, slightly unequal at base, upper half largest, margin incrassated, revolute, 1½–2¾ inches long, 4–6 lines wide: *terminal pinnule*, very long, acuminate, serrate, 3½–5½ inches: *veins*, pinnate, opposite, simple, rarely forked. *Sori*, linear, thick, distichous, confined to upper pinnae, intra-marginal. *Involucrum*, vaulted, glossy, slightly wrinkled, membranaceous at margin, brown-red, black at base. *Rachis*, slightly margined, villous. *Stipe*, sulcated on upper surface, 4–5½ inches, somewhat succulent, blackish-green.

*Hab.* In ravines and dells among scoriæ, on the dry volcanic range of hills near Manukau Bay; 1842.

140 *Lastreopsis microsora* subsp. *pentangularis* (Colenso) Tindale.

141 *Asplenium hookerianum* var. *colensoi* (Hook.f.) Moore.

142 *Asplenium hookerianum* var. *colensoi* (Hook.f.) Moore.

143 *Asplenium polyodon* G.Forst.

144 Stet.

*Obs.* In affinity this species of *Asplenium* approaches very near to *A. obliquum*, Forst., from which, however, it may at first sight be known, by its being a much smaller plant with narrower pinnae. That species is, moreover, described as possessing pinnules "acutis basi oblique cuneatis obtuse serratis utrinque striatis." I have never yet detected *A. obliquum* in any of my wanderings. A. Richard considers it as identical with *A. lucidum*, Forst.; yet, A. Cunningham states, his having met with it "in dense forests at Wangaroa."—*Vide, Comp. Bot. Mag.*, vol. 2, p. 364.

#### §. PTERIDEÆ, Freyc. et Kaulf.

##### *Pteris*, L.

*Sporangia apicibus venularum, in receptaculum nerviforme frondis marginem ambiens combinatis imposita, sorum marginalem continuum formantia. Indusium margini frondis continuum, scariosum, introrsum liberum. Endl.*

**13. P. MONTANA**,<sup>145</sup> n. sp. *Plant*, few fronded, erect, glaucous, glabrous, somewhat coriaceous; terrestrial. *Frond*, lanceolate, bipinnate, 12–18 inches. *Pinnules*; *primaries*, ovate-triangular, acuminate, obtuse, sub-opposite, sessile, very remote; uppermost pinnatifid, confluent; *terminal lobes* acuminate and sub-caudate; *secondaries*, cuneate-falcate, obtuse, broadest at base, entire, sessile, [173] opposite, much veined; uppermost confluent; lowermost on lowest pinnae, largely crenate and imbricate on rachis; those nearest to rachis on upper pinnae diverging from it. *Involucrum*, membranaceous, entire, continuous on either side of segments, but not at apex, sub-revolute, gaping. *Stipe*, 6–9 inches, brittle, red-brown. *Root*, fibrous.

*Hab.* On exposed mountainous situations, in sandy soil, near Waikare Lake; Dec., 1841.

*Obs.* In affinity this Fern certainly approaches very near to *P. Brunoniana*, Endl., which, however, is "tripinnate," and a very much larger species; notwithstanding it may possibly prove to be a stunted variety of that plant. I do not, however, recollect seeing a single specimen of *P. Brunoniana*, (a common Fern in many parts of New Zealand) in the whole of that hilly district.

##### *Cheilanthes*, Sw.

*Sporangia apicibus venularum discreti imposita, in soros subrotundos, margini frondis approximatos collecta. Indusium, spurium, e margine frondis reflexo. Endl.*

**14. C. PELLUCIDA**,<sup>146</sup> n. sp. *Plant*, few fronded, tall, suberect, sub-membranaceous and flaccid; terrestrial. *Frond*, oblong or ovate-lanceolate, acute, tri-sub-quadrangular, 24–36 inches; light green; villous on petioles, ribs, and veins. *Pinnules*; *primaries*, ovate-lanceolate, sub-acuminate, obtuse, petiolate, sub-opposite, distant, confluent towards apex; *lowermost* opposite; *petioles*, somewhat tortuous; *secondaries*, oblong-lanceolate, obtuse, broadest at base, petiolate, somewhat remote; *lowermost* opposite; *tertiaries*, oblong-lanceolate, obtuse, sessile, opposite, not crowded; *lowermost* pinnate-pinnatifid; *segments*, oblong, somewhat falcate, bi-serrate, obtuse or tridentate, sessile,

opposite. *Sori*, sub-rotund, sub-marginal, solitary on upper edges of sinuses of tertiary pinnae sometimes 2–4 on a segment, when so, bifariously disposed. *Involucrum*, spurious, large, somewhat cordate, acute, sub-membranaceous towards [174] apex, irregularly and slightly laciniate, converging and reflected from margin of frond. *Rachis*, deeply channelled on upper surface, scabrous, orange-brown. *Stipe*, 30–40 inches, rough, hairy and shaggy at base. *Hairs*, flattish, tapering, corrugated, pellucid, and jointed. *Root*, fibrous.

*Hab.* On clayey declivities in dry woods, between Cape Brett and Wangarei Bay, E. Coast; 1839 and 1842.

*Obs.* I can but consider this plant as intermediate between the two genera, *Lonchitis* and *Cheilanthes*; and as a link uniting both; possessing as it does, the simple venation of the latter, with the sinus-situated *sori* of the former genus. After some hesitation, however, I have concluded to place it, for the present at least, among the *Cheilanthis*.

This species appears to be a very scarce plant, I only having seen two or three specimens, and these only in that district, near the sea-coast.

#### §. SCHIZOLOMEÆ, Frey et Gaud.

##### *Lindsæa*, Dryand.

*Sporangia apicibus venarum imposita, in sorum continuum marginem frondis ambeuntem collecta. Indusium membranaceum, continuum, frondem ambiens, extrorsum liberum. Endl.*

**15. L. VIRIDIS**,<sup>147</sup> n. sp. *Plant*, somewhat tufted, sub-erect, lax, drooping, membranaceous, glabrous, terrestrial. *Frond*, oblong-lanceolate, acuminate, bipinnate, 6–9 inches, colour, an agreeable light green. *Pinnules*; *primaries*, trapezio-ovate, somewhat falcate, truncate, bifid, petiolate, alternate; lowermost opposite; *secondaries*, triangular-falcate, truncate, petiolate, alternate, sub-pinnatifid; *segments*, cuneate, linear-spathulate, entire, decurrent, bifid, emarginate, toothed and mucronate, 1–2 veined. *Involucrum*, emarginate, somewhat præmorse, dilated, slightly plicate. *Rachis*, flexuose, deeply channelled. *Stipe*, semi-angular, 2–3 inches long, brittle, slightly scaled at base. *Root*, fibrous.

*Hab.* On wet rocks in stony ravines, in the dense forest [175] between Tauranga and Rotorua, E. Coast; Jan., 1842.

*Obs.* A truly elegant species, evidently possessing near affinity with *L. trichomanoides*, Willd.; from which, however, it is very distinct.

##### *BLECHNNEÆ, Freyc. et Kaulf.*

##### *Lomaria*, Willd.

*Sori lineares continui dorsum frondis contractæ tegentes. Indusia marginalia conniventia. Spreng.*

**16. L. LATIFOLIA**,<sup>148</sup> n. sp. *Plant*, few fronded, erect, somewhat furfuraceous; terrestrial. *Fronds*, pinnate. *Barren frond*: *pinnules*, 5–10, linear-oblong, somewhat falcate, sub-acuminate, obtuse, sessile, alternate, remote, serrate, margined, somewhat undulate, slightly villous, length 2 inches, breadth 8–9 lines; *lowermost* petiolate and sub-

145 *Histiopteris incisa* (Thunb.) J. Sm.

146 *Hypolepis dicksonioides* (Endl.) Hook.

147 Stet

148 *Blechnum procerum* (G. Forst.) Sw.

opposite; terminal pinnule, acuminate, abrupt, mucronate; colour, dull brown-green: *Rachis*, 4 inches; *Stipe*, 5 inches, channelled and scaly; sooty-coloured. *Fertile frond*: pinnules, 9–11, linear-lanceolate, caudate, alternate, distant, villous, length 3, 4, inches; lowermost sub-opposite and petiolate: *Rachis*, 3–5 inches; *Stipe*, 7–9 inches, striated and slightly villous on upper surface. *Root*, fibrous.

*Hab.* Dense humid woods, mountains, near Waikare Lake, and in rich vegetable mould, near dry woods, Ruatahuna; Jan., 1842.

*Obs.* In affinity this Fern is very near *L. procera*, Spreng., from which every-where-common species, however, it differs, in its pinnæ being much broader, more deeply serrated, fewer in number, and not decreasing in size downwards, as well as from its much longer stipe, and solitary habit.

**17. L. HETEROPHYLLA**,<sup>149</sup> n. sp. *Plant*, solitary, coriaceous, sub-furfuraceous, dependent, drooping, terrestrial. *Barren frond*, 9–26 inches, pinnatifid, irregularly lobed or laciniated, margin thickened and entire: *lobes*, linear-oblong, acuminate, pointletted, decurrent and alternate, 3–6 inches; lowermost lobes very small and semi-orthicular; terminal lobe [176] long, 5–9 inches; some fronds, simple, lanceolate, acuminate and entire, slightly undulate, 8–12 inches; colour, dark dirty green on upper, and discoloured on under, surface. *Stipe*, channelled, glabrous, black, 5–9 inches, scaly at base. *Fertile frond*, 8–20 inches, pinnatifid: *lobes*, linear-lanceolate, very caudate, sub-acute, irregular, decurrent, alternate, 4–8 inches, twisted in fructification: *Stipe*, channelled, glabrous, 6–12 inches, scaly at base.

*Hab.* Shaded woods, in decomposing vegetable soil, in the Ruatahuna district; with preceding; Jan., 1842.

**18. L. NIGRA**,<sup>150</sup> n.sp. *Plant*, depressed, prostrate, spreading, terrestrial; colour, dark-green approaching to black. *Sterile frond*, oblong-lanceolate, lyrate-pinnatifid; length, 6–8 inches; breadth, 12–15 lines: *lobes*, oblong, obtuse, broadest at base, very irregularly toothed and jagged, subrevolute, veined, blistered, roughish, and alternate, 6–9 lines long, 3–4 lines broad; two next to lowest the smallest; terminal lobe, 1–2 inches long: *Rachis*, tomentose, 5–6½ inches: *Stipe*, channelled, hairy, 1½–2¼ inches; dark brown. *Fertile frond*, pinnate: *pinnules*, linear, obtuse, tomentose on upper surface, sessile, alternate, 12–15 lines long, 2 lines broad; terminal pinnule much caudate, 2½–3 inches long: *Rachis*, tomentose and scaly, 3–4 inches: *Stipe*, cylindrical, fibrous, hairy, scaly at base, 3–4 inches. *Root*, fibrous.

*Hab.* Low and shady humid spots, in the dense forest between Tauranga and Rotorua, E. Coast; Jan., 1842.

**19. L. LINEARIS**,<sup>151</sup> n. sp. *Plant*, cmspitose, terrestrial. *Fronds*, linear-lanceolate. *Sterile frond*, pinnatifid, often decumbent, spreading, 4–6 inches: *lobes*, somewhat oblong, obtuse and sub-acute, revolute, opposite, confluent, smooth, entire, and veined, 4–6 lines in length; lowermost smallest and semi-circular; colour, yellowish-green, sometimes reddish: *Rachis*, smooth, with here and there a long scale: *Stipe*, smooth, obtusely angled, scaly at base, 3–4 inches, [177] red-brown. *Fertile frond*, pinnate, 'very erect, 4–8

inches: *pinnules*, oblong or oblong-ovate, obtuse, entire, smooth; lowermost, sub-petiolate, opposite, distant and small; upper, sessile, alternate, and crowded, 2–3 lines in length; colour, brown-black: *Rachis*, smooth: *Stipe*, smooth, obtusely angled, channelled, brittle, very closely covered at base with large, light-coloured, half-clasping, obtuse, and membranaceous scales; 7–10 inches. *Root*, creeping, ramentaceous and downy.

*Hab.* Plentifully in alluvial soil, on margins of woods near Te Waiiti, a village in the interior, two days journey S.E. from Rotorua; January, 1842.

*Obs.* A smaller variety was also found growing in great abundance among grass, on dry heaths near Wakapunake, two days' journey from Poverty Bay, E. Coast; December, 1841. The fronds of which, including Stipe, only measured from two to four inches in length.

**20. L. DELTOIDES**,<sup>152</sup> n. sp. *Plant*, solitary, erect, terrestrial. *Fronds*, somewhat deltoid or oblong-triangular, subcaudate, pinnate. *Barren frond*, 8–10 inches: *pinnules*, ligulate-oblong, somewhat falcate, obtuse, broadest at base, margined, entire, undulate, veined, puckered, sessile, alternate, and close; slightly hairy on the veins of under surface, 15–21 lines long, 4–8 lines broad; lowermost pair opposite, auricled, and deflexed; uppermost pinnæ confluent; colour, pale green: *Rachis*, upper surface smooth, under thinly haired: *Stipe*, channelled, smooth, roughish towards base; base densely clothed with long acuminate brown scales; 10–12 inches; straw-coloured. *Fertile frond*, much caudate, 6–8 inches: *pinnules*, linear, obtuse, smooth, entire, slightly decurrent, ciliate at margin, sessile, alternate, distant, 1½ inches long, 3 lines broad; lowermost opposite; upper surface, dull green; midrib of pinnæ prominent and yellow-coloured: *Rachis* and *Stipe*, channelled, smooth; lower, part of Stipe rough, and thickly set with long hairs [178] and scales; 11–14 inches long; colour, light yellow: *scales*, crowded and sub-fascicled, shining, brown. *Root*, fibrous.

*Hab.* In hilly situations, dry woods, in Te Waiiti district, in nearly the same locality as the preceding; January, 1842.

**21. L. DEFLEXA**,<sup>153</sup> n. sp. *Plant*, small, solitary, abruptly deflexed, glabrous, terrestrial. *Barren frond*, pinnate-pinnatifid, ovate-lanceolate, acuminate, sub-acute, 4–7 inches: *segments*, ligulate-lanceolate, obtuse, somewhat falcate, broadest at base, margined, entire, or slightly crenulate, veined; lowermost pinnules, pinnate, opposite, sessile, unequal, broadly cordate at base, auricled upwards and imbricated; upper pinnæ, pinnatifid, alternate, divided almost to rachis; colour, light red-green: *Rachis*, flexuose towards apex, channelled: *Stipe*, smooth, hairy towards, and thickly scaled at, base, 2–4 inches long: *veins*, pinnate, bifurcate, clavate at apices. *Fertile frond*, pinnate, 3–4 inches long: *pinnules*, ligulate, obtuse, falcate, broadest at base, decurrent upwards and downwards, sessile, opposite; uppermost confluent; terminal lobe caudate: *Rachis* and *Stipe*, channelled; *Stipe*, smooth, hairy, and densely scaled at base; 3–4 inches long. *Roots* fibrous.

*Hab.* Dry clayey banks, sides of rivers, country between Turanga and the River Wairoa, E. Coast; December, 1841.

149 *Blechnum colensoi* (Hook.f.) N.A. Wakef.

150 *Blechnum nigrum* (Colenso) Mett.

151 *Blechnum penna-marina* subsp. *alpina* (R.Br.) T.C.Chambers et P.A.Farrant.

152 *Blechnum vulcanicum* (Blume) Kuhn.

153 *Blechnum vulcanicum* (Blume) Kuhn.

*Obs.* A curious little species, in affinity apparently very near *L. deltoides*; from which, however, it differs, in not being ciliated on the margins of its pinnæ, in being much smaller, in its different venation, and in its very peculiar habit of growth, the barren frond being, almost invariably, abruptly deflexed (as if broken) from the lowermost pinnules. The difference between these two apparently closely-allied species, is easier perceived on comparing them together than described.

On re-examination it has occurred to me, that this species may be yet found to have an alliance with the genus *Blechnum*; as, in some young fronds which I have examined, the [179] involucre appears scarcely marginal. With that genus, however, I am totally unacquainted, never having seen a specimen.

**22. L. ROTUNDIFOLIA,**<sup>154</sup> n. sp. *Plant*, spreading, squarrose, terrestrial. *Fronds*, linear-lanceolate, pinnate. *Barren frond*, sub-deflexed, patent, 6–20 inches: *pinnules*, sub-round or oblong membranaceous, slightly crenulate, sessile, opposite, 6–9 lines long, uppermost alternate and confluent; colour, light green; *Rachis*, densely clothed with long scales: *Stipe*, cylindrical, 1–4 inches; brown. *Fertile frond*, very erect, 4–14 inches: *pinnules*, linear-lanceolate, obtuse, entire, sub-sessile, alternate, distant, 6–12 lines long, 2–3 lines broad; lowermost petiolate; brownish red: *Rachis* and *Stipe*, channelled, and thickly covered with scales; 2–9 inches; light brown. *Root*, fibrous.

*Hab.* Dense humid woods, near Waikare Lake, in decomposed sandstone soil; December, 1841.

*Obs.* This Fern in its native forests, presents a very graceful appearance. It there attains a large size, some fronds having been observed between two and three feet in length. The fertile fronds, generally three in number in each plant, are invariably very erect, ascending directly from the centre; while the numerous barren fronds spread out horizontally in a half-procumbent manner, enchant the eye of the observer with a most elegant circle of delicate and ever-living green.

A smaller variety of this species was also detected in alluvial soil, in the low woods in the first day's journey from Turanga towards Waikare.

#### §. DICKSONIEÆ, Freyc. et Kaulf.

##### *Dicksonia*, L'Herit.

*Sporangia* apice venarum imposita, *soros* subrotundos marginales formantia. *Indusium* duplex, verum membranaceum venæ continuum, spurium e lobulo frondis reflexo alterum equitans. *Endl.*

**23. D. FIBROSA,**<sup>155</sup> n. sp. *Plant*, arboreous, terrestrial. *Frond*, oblong-lanceolate, apex acute, bipinnate, 5–7 feet; [180] colour, light green. *Pinnules*; *primaries*, oblong-lanceolate, acuminate, sub-acute, broadest at base, petiolate, alternate: *secondaries*, oblong-lanceolate, acute, slightly approximate, deeply pinnatifid, petiolate, alternate: *lobes*, oblong-ovate, somewhat falcate, acute, bi-trifid, serrate, sessile, alternate, decurrent, revolute, glabrous; lowermost, sub-petiolate; *veins*, pellucid. *Sori*, sub-marginal, mostly four on a lobe, bifurcately disposed. *Involucres*, inflated, entire or slightly uneven. *Rachis*, *Stipe*, *Petioles*, and *Ribs*, densely tomentose; *Rachis* and *Stipe*,

channelled; *Stipe*, 1–2 feet. *caudex*, erect, bulky, 12–18 feet high. *Cortice*, fibrous, dry, and enormously thick.

*Hab.* In rich alluvial soil, on the banks of rivers, in Te Waiiti district; January, 1842.

*Obs.* This fine arborescent Fern attains in its native forests to the height of eighteen feet. In affinity it approaches very near to *D. squarrosa*, Sw.; from which species, however, it may, even at a distance, be readily distinguished; its trunk not being studded with broken-off and decayed petioles, as in that species, but, on the contrary, thickly covered with fibres, which resemble those of the fibrous interior of the husk of the cocoa-nut. This fibrous epidermis increases in thickness with the age of the plant; and, in time, causes it to appear unusually bulky. Some trees were noticed from fourteen to sixteen inches in diameter. The natives cut away the fibrous outside in thick slices, which they use for many purposes in the construction of their dwelling-houses, and, especially, their stores for food. Being easier cut by them than wood, a piece resembling a small plank may speedily be obtained. It is also found much more effectual than such timber as they with their limited means could cut, for excluding of rats and mice; as these animals cannot gnaw through this dry fibrous substance so readily as through wood. Its living fronds are few in number, spreading, and deciduous. When dead they remain hanging for a long while thickly around [181] the trunk, giving the plant a peculiar bushy appearance. Its foliage, when living, is much softer than that of *D. squarrosa*, which is very harsh and spiny, and much more deeply veined. The natives call this species, *Wekiponga*; a word worth noticing, as showing the acuteness of their observation of natural productions; it being evidently derived from *Weki*, the name given by them to *D. squarrosa*, and *Ponga*, their name for *Cyathea dealbata*, Sw., the common arborescent Fern of New Zealand. *D. fibrosa*, being, according to their idea, intermediate between those two species: or, possessing characters common to both. Which, undoubtedly, it has in general appearance, uniting the *softness* of the foliage of the one, with the *rough caudex* and *deciduous fronds* of the other. It has been named from the very dense fibrousness of its cortice, combined with the admirable uses to which that substance is so efficiently applied by the New Zealanders.

**24. D. LANATA,**<sup>156</sup> n. sp. *Plant*, sub-erect, somewhat drooping coriaceous, terrestrial. *Frond*, ovate, bi-tripinnate, densely woolly on veins, ribs, and rachis, 12–30 inches; colour, yellowish green. *Pinnules*; *primaries*, ovate-lanceolate, acuminate, sub-acute, petiolate, alternate, crowded; uppermost, pinnatifid; lowermost, bipinnate: *secondaries*, lanceolate, somewhat falcate, sub-acute, broadest at base, petiolate, alternate; uppermost, confluent: *segments*, ovate-oblong, sub-acute, serrate, sessile, decurrent; crenate, when fruited; lowermost, sub-petiolate. *Sori*, sub-marginal, bifurcately disposed on segments of frond, numerous; base of frond most thickly fruited, seldom any on apex. *Involucres*, sub-globose, inflated, converging, somewhat retuse. *Stipe*, deeply channelled and furrowed on upper surface, succulent, very woolly, thickly matted with shaggy hair at base; 9–16 inches long. *Hairs*, regularly articulated, deciduous; yellow brown. *Root*, fibrous.

*Hab.* Declivities, cleared woods, on the high shores of the E. side of Waikare Lake; December, 1841. [182]

154 *Blechnum fluviatile* (R.Br.) Salomon.

155 *Stet.*

156 *Dicksonia lanata* Colenso var. *lanata* and var. *hispida*.

*Obs.* The old fronds of this plant become, in time, quite glabrous, and pinnae more distant.

*Var. hispida;* a variety which is much larger, grows on the mountain range of Wanakane, near Wangarei Bay, E. Coast. This variety attains to the height of 5–6 feet, including stipe, and is nearly quadripinnate; its pinnules, too, are more distant, segments oblong-linear and pinnatifid, and hair of stipe and frond much more rigid, and of a dark brown-black colour. I am almost inclined to consider it a distinct species, but wait the examination of better specimens than those at present in my possession. Observed at Wanakane, 1839; and, again, in 1842. MSS., W.C.

#### *Davallia, Sm.*

*Sporangium apicibus venarum imposita, soros sub-rotundos, margini approximatos formantia. Indusium venae continuum, lata basi v. etiam marginibus adnatum, vertice extorsum liberum. Endl.*

**25. D. NOVÆ-ZELANDÆ<sup>157</sup>** n. sp. *Plant,* few fronded, sub-erect, lax, sub-membranaceous, terrestrial. *Frond,* ovate-lanceolate or deltoid, bi- tripinnate, upper surface glabrous, under slightly villous, 7–10 inches. *Pinnules; primaries,* ovate-lanceolate, somewhat falcate, acuminate, acute, unequal, petiolate, alternate; *petiole,* channelled, margined towards apex: *secondaries,* oblong-lanceolate, acute, unequal, petiolate, alternate; uppermost decurrent, margined: subdivisions, falcate-lanceolate, cuneate at base, slightly petiolate and pinnatifid: *lobes,* entire, acuminate, acute, decurrent, somewhat bordered: *veins,* pinnate-pinnatifid, simple, terminating abruptly within margin. *Sori,* sub-marginal, on inner margins and near apices of secondary and lower lobes, never terminal. *Involucrum,* triangular-ovate, membranaceous, truncate, laciniate; laciniations sub-acute; apex of lobe revolute, sub-laciniate, and converging. *Rachis,* channelled, slightly flexuose, glabrous. *Stipe,* brittle, channelled, roughish hispid and scaly at base, 5–8 inches. *Caudex,* creeping. [183]

*Hab.* In shaded damp woods, in Te Waiti district; Jan., 1842.

*Obs.* A variety of this graceful Fern, possessing a much smaller frond, was gathered by the discoverer in the woods between the E. Cape and Poverty Bay, in November, 1841. Only two or three plants were observed in both those localities, and, as it has not been noticed growing in any other parts, it is concluded to be a scarce species.

#### ORDER—GLEICHENIACEÆ.

##### § HYMENOPHYLLEÆ, Bory.

#### *Hymenophyllum, Sm.*

*Sporangia circa venam ultra frondis marginem in columellam subclavatam productam sessilia, indusio frondi continuo bivalvi cincta. Endl.*

**26. H. FRANKLINIANUM<sup>158</sup>** n. sp. *Plant,* climbing, fronds numerous, pendulous, regular, pellucid, silky, epiphytical. *Frond,* ovate-lanceolate, acuminate, bipinnate, margined, 3–5 inches long, 1–1½ inches broad; colour, reddish-green. *Pinnules; primaries,* oblong-falcate, obtuse and bifid, petiolate, sub-opposite, margined: *secondaries,* cuneate, 2, 3, and 4-lobed; *lobes,* linear, forked and obtuse. *Involucrum,*

small, sub-globose, shallow, supra-axillary and terminal, solitary aid in pairs, densely bearded and ciliated; orange-coloured. *Rachis,* downy. *Stipe,* cylindrical, filiform, tomentose, brittle, 1–2 inches long; brown. *Hairs,* articulated, coloured, branched into 3, 4, and 5 rays; rays acute. *Caudex,* brittle, creeping, and villous.

*Hymenophyllum Frankliniae. W. Colenso in Tasm. Jour. Vol. 1. p. 378.*

*Hab.* On living trees in shaded forests, on the banks of Waikare Lake; December, 1841.

*Obs.* This truly elegant and new species of *Hymenophyllum,* literally clothes the trunks of the trees on which it lives in its native woods, with the excessive profusion of its fronds.

[184] On several fine trees of *Laurus* and *Ixerba*, it was noticed as having attained the height of 20–25 feet. Viewed through a microscope, the cellular tissue, pores, and branched hairs of the frond, present a most splendid appearance. It has been named by the discoverer, in order to commemorate the condescending and intrepid tour made by Lady Franklin in New Zealand, as well as the kind patronage ever afforded by her ladyship to the different departments of natural science.

**27. H. SPATHULATUM<sup>159</sup>** n. sp. *Plant,* climbing, fronds numerous, pendulous, membranaceous, glabrous, epiphytical. *Frond,* ovate, acuminate, obtuse, tripinnate, margined, serrate, 6–8 inches. *Pinnules; primaries,* ovate-lanceolate, falcate, acuminate, obtuse, margined, petiolate, alternate, unequal: *secondaries,* rhombic-lanceolate, cuneate at base, obtuse or slightly truncate, margined, petiolate, alternate, and unequal: *tertiaries,* cuneate and linear, sessile, alternate, pinnatifid, 2–6 lobed; lobes, obtuse and slightly truncate, serrate, margined, decurrent. *Involucrum,* obovate-spathulate, inflated, entire, pedicelled; pedicel, winged; supra-axillary in axillæ of sub-divisions and sub-terminal, solitary, sometimes in pairs, very numerous: *Valves,* large, open: *Receptacle,* short, included. *Rachis,* slightly flexuose, margined: margin less serrated than lobes of frond. *Stipe,* filiform, cylindrical, brittle, 3–4½, inches. *Caudex,* creeping.

*Hab.* On living trees, shores of Waikare Lake, (with preceding); December, 1841.

*Obs.* This handsome Fern is very subject to a peculiar disease, which appears in black botryoidal masses on the under part of the lower and terminal lobes of the frond, sometimes at the base of the involucrum, giving the plant a curious appearance. These clusters are chiefly found on the barren fronds. At first glance, I supposed I had gained, indeed, a prize, and that my discovery would prove the type of a new genus. But, after diligent examination with such [185] means as I have here at command, I arrive at the conclusion, that these clusters (which are evidently formed beneath the cuticle) are, in all probability, analogous to the galls on the oak and willow; and like them, too, may owe their origin to the punctures of some yet unknown insect of the *Hymenopterous* order.

**28. H. VILLOSUM<sup>160</sup>** n. sp. *Plant,* climbing, few fronded, reclinate and pendulous, glabrous, epiphytical. *Frond,* ovate, sub-acuminate, tripinnate, 3 inches long; colour, tawny green. *Pinnules; primaries,* somewhat trapezio-

157 *Leptolepia novae-zelandiae* (Colenso) Diels.

158 *Hymenophyllum frankliniae* Colenso.

159 *Hymenophyllum bivalve* (G. Forst.) Sw.

160 Stet.

lanceolate, acuminate, obtuse, petiolate, alternate, unequal; midrib, sub-flexuous: *secondaries*, somewhat rhombic-ovate, obtuse, petiolate, alternate: *tertiaries*, sub-pinnatifid, cuneate petiolate, alternate: segments, deeply incised, 2–6 lobed: *lobes*, linear, entire, truncate or slightly emarginate. *Involucre*, ovate, sub-acute and obtuse, solitary, sometimes in pairs, axillary in axillæ of tertiary pinnules and lobes, pedicelled: *Valves*, large, entire, and much open. *Rachis*, *Petioles*, and *Ribs*, villous underneath, and margined; margin, entire, and slightly ciliated; *Rachis*, flexuous. *Stipe*, two inches long, winged to base, brittle and villous. *Caudex*, creeping.

*Hab.* On reclining and prostrate trees, dense shaded forests near Ruatahuna; January, 1842.

*Obs.* This Fern has a peculiarly strong smell, especially when dry. It appeared to be a scarce species, a few plants only being detected, and these in one locality.

**29. H. PULCHERRIMUM**,<sup>161</sup> n. sp. *Plant*, climbing, fronds numerous, sub-erect, spreading, pendulous, glabrous, very membranaceous, epiphytical. *Frond*, rhombic-lanceolate, lax, margined, tripinnate; grass-green. *Pinnules*; *primaries*, rhombic-ovate, sub-acute, petiolate, alternate, remote, unequal: *secondaries*, triangular- or trapezio-ovate, retuse, petiolate, alternate: *tertiaries*, trapeziform, cuneate, and pinnatifid: *segments*, entire, linear, bifid, emarginate and [186] retuse. *Involucre*, small, globose, sub-pedicelled, solitary, sub-terminal in sinuses of tertiary pinnules and segments, numerous, scattered: *Valves*, large, and entire. *Rachis*, winged, 8–11 inches; margin entire. *Stipe*, semi-terete, flattish, somewhat fleshy, brittle, winged to caudex, glabrous, densely fimbriated at base; margin entire. *Caudex*, creeping.

*Hab.* On reclining and prostrate trees, humid woods, shores of Waikare Lake; December, 1841.

*Obs.* This fine and very beautiful species becomes circinate as it gets old. In affinity it somewhat approaches *H. flexuosum*, *R. Cunn.*; from which, however, it may at first sight be discriminated, by its being tripinnate, and by its winged stipe and rachis being destitute of undulations, &c.

**30. H. REVOLUTUM**,<sup>162</sup> n. sp. *Plant*, small, climbing, few fronded, sub-erect and spreading, glabrous, epiphytical. *Frond*, ovate or oblong-lanceolate, obtuse, pinnate-pinnatifid or sub-bipinnate, 2–5 inches; dusky green. *Pinnules*; somewhat trapezio-falcate, petiolate, alternate, distant, pinnatifid, 3–12 lobed: *lobes*, linear-oblong, truncate, deeply serrate or sub-laciniate; serratures acute and somewhat hooked; mostly four laciniations at apex, decurrent, revolute; lowermost wedge-shaped and deeply bifid. *Involucre*, obovate or sub-rotund, inflated, laciniate, supra-axillary, solitary, pedicelled; pedicel, margined: *Valves*, large, open: *Receptacle*, exserted. *Rachis*, flexuous, margined towards apex; margin, serrate; serratures, distant. *Stipe*, filiform, cylindrical, brittle, finely striated, tortuous, 1–1½ inches long. *Caudex*, creeping.

*Hab.* On sides of prostrate and reclining trees, shores of Waikare Lake; December, 1841.

*Obs.* A species possessing very close affinity with *H. Tunbridgense*, *Sm.*

161 *Stet.*

162 *Stet.*

**31. H. ATROVIRENS**,<sup>163</sup> n. sp. *Plant*, small, few fronded, erect, glabrous, terrestrial. *Frond*, oblong-ovate, [187] sub-acuminate, obtuse, tripinnatifid, 2–3 inches; colour, blackish-green. *lobes*, linear, bifid, sub-retuse, decurrent, entire. *Involucre*, deltoid-ovate, obtuse and toothed, in pairs, terminal: *Valves*, gaping. *Rachis* and *Stipe*, margined, entire; *Stipe*, somewhat succulent, 1–1½ inches. *Caudex*, creeping.

*Hab.* On rocks and stones, in low places and water-courses, in wet woods, shores of Waikare Lake; December, 1841.

*Obs.* A species apparently very near *H. flexuosum*, *R. Cunn.*; from which, however, it differs in the involucre, &c. The involucre in that species being “orbicular”.

**32. H. IMBRICATUM**,<sup>164</sup> n. sp. *Plant*, small, very cespitose, creeping, reclining or pendulous, glabrous, glaucous. *Frond*, sub-pinnate-pinnatifid, oblong or ligulate, very obtuse, 8–15 lines long. *Pinnules*, sub-flabelliform or cuneate, somewhat falcate, obtuse, sub-sessile, alternate, decurrent, much imbricated on each other, lower margins somewhat involute, lobed; *lobes*, secund, 4–5 on each pinnule, linear or sub-cuneate, bifid obtuse or slightly emarginate, entire. *Involucre*, large, orbicular, compressed, terminal on upper segments, solitary, half immersed in lobe of frond: *Valves*, large, entire: *Receptacle*, included. *Rachis*, sub-flexuous, margined. *Stipe*, cylindrical, filiform, flexuous, glabrous, 1–2 inches. *Caudex*, creeping, slightly villous.

*Hab.* On edges of rocky precipices, in dry spots overhanging water, at Pataua, near Wangarei, E. Coast; 1842. And on reclining timber, in woods between Wangarei and the Bay of Islands; 1840.

*Obs.* A small species, having close affinity with *H. secundam*, *Rich.*, and *H. semibivalve*, *Hook.*; differing, however, from the former species, in not being “serrated,” and in not possessing an “oval involucræ;” and from the latter, in its frond not being “lanceolate,” and in not having an “urceolate involucræ with short lips,” as well as from the very [188] peculiar and close manner in which its pinnæ overlap one another.

At Pataua, E. Coast, it grows abundantly in dense patches on the edges of the indurated clayey cliffs overhanging the sides of the salt-water inlet. Its fertile fronds, are, however, very few.

#### ORDER—OSMUNDACEÆ.

##### §. OSMUNDEÆ, *Hook.*

###### *Todea*, *Sw.*

*Capsules* globosæ pedicellatae reticulatae, gibbere dorsali pellucido, lateraliter dehiscentes, venulis frondis infer. insidentes. *Spreng.*

**33. TODEA SUPERBA**,<sup>165</sup> n. sp. *Plant*, large, sub-erect, spreading, membranaceous, crisped, terrestrial. *Frond*, lanceolate, attenuated at base, sub-acuminate, acute, bipinnate, 20–40 inches, dark green. *Pinnules*; *primaries*, linear, elongated, sub-acuminate, bifid, broadest at base, petiolate, alternate and sub-opposite, not crowded, 4–6 inches long, 6–10 lines broad, decreasing in size towards base, lowermost very small; base of pinnule appendiculated

163 *Stet.*

164 *Hymenophyllum rarum* R. Br.

165 *Leptopteris superba* (Colenso) C. Presl.

on upper surface of petiole with a large sub-capillaceous-multifid segment, somewhat adpressed on rachis; petioles short: *secondaries*, somewhat trapezio-falcate, bifid and obtuse, deeply pinnatifid, sub-petiolate, alternate, appendiculated at base with a bi-tri- or quadrifid linear cut segment, sub-depressed on petiole: *segments*, narrow, linear, bifid or forked, sub-acute, decurrent, sub-opposite, entire, glabrous, somewhat crisped and curled. *Capsules*, small, clustered on lower segments of pinnules, numerous, never terminal. *Stipe*, *Rachis*, *Petioles*, and *Ribs*, densely villous underneath, canaliculated and sulcated on upper surface, dark green. *Stipe*, somewhat fleshy; dilated, winged and half-clasping at base, 1–1½ inches long. *Caudex*, erect, short, [189] sub-coalescent. *Root*, fibrous.—*Todea superba*, (W.C., MSS.,) in lett. to Sir W.J. Hook.; July, 1841.

*Hab.* In dells, in shaded forests, on the mountainous range near Waikare Lake, in decomposed sandstone soil; December, 1841. And, on Tongauro Mountain; 1838.

*Obs.* This truly magnificent Fern has only hitherto been met with in those mountainous localities, where it attains to a large size, some fronds measuring upwards of four feet in length. The old fronds spread outwards, forming a complete circle of dark perennial green, while the younger ones, (generally three in number) circinate and of a lighter green, rise in the most graceful sub-erect manner from the centre. Words, however, fail to describe the elegant appearance of this plant, heightened by its numerous multifid crisped-and-curved moss-like segments, meeting across and partially concealing its petioles on which they grow. I passed through those secluded mountainous recesses where these lovely plants abound, in tremendously heavy rain, which, as if caused by the guardian Dryades of these woods, almost precluded my bringing away any specimens; notwithstanding, however, I succeeded in securing and drying two dripping-wet fronds, which I brought in safety to the Bay of Islands. One of these has subsequently been sent to Sir W.J. Hooker, for his herbarium.

Paihia, January 3, 1843.

Note.—Six species of Ferns contained in the preceding list have already appeared in the *Tasmanian Journal*, Vol. 1, pp. 375–9, but it has been deemed desirable to republish them, in connexion with the other and allied species, from Mr. Colenso's amended MS. Those already published are *Aspidium Cunninghamianum*, (as *A. Cunninghamii*.) *Lomaria nigra*, *L. linearis*, *L. deltoides*, *L. rotundifoia*, and *Hymenophyllum Franklinianum*, (as *H. Frankliniae*).—Ed.

## 1868 On the Maori Races of New Zealand.

*Transactions of the New Zealand Institute* 1: 5–75  
(a single copy also published in 1865 as a booklet).<sup>166</sup>

### ANALYSIS

#### I. PHYSIOLOGICAL.

##### 1. Individual.

1. Colour.
2. Height: shape.
3. Physiognomy: head.
4. Hair.
5. Health: constitution: teeth.
6. Sensorial faculties.
7. Puberty: natural selection: number of children.
8. Malformations: albinos.
9. Diseases.

##### 2. Social.

10. Ordinary habits: of men: of women.
11. Modes of obtaining subsistence: food plentiful.
  - (1). Fishing.
  - (2). Bird snaring, etc.
  - (3). Cultivations.
  - (4). Wild fruits and vegetable substances.
12. Division of Labour.
13. Architecture.
14. Canoe-building.
15. Manufactures—
  - (1). Textile.
  - (2). Implements of Agriculture and of War: tools and various vessels.
  - (3). Stone Implements and Mechanical appliances.
16. Ornaments: Musical Instruments: Carvings.
17. Barter, etc.
18. Ordinary Events—
  - (1). Birth, etc.
  - (2). Betrothal.
  - (3). "Naming."
  - (4). Tattooing, etc.
  - (5). Marriage.
  - (6). Polygamy and Divorce.
  - (7). Death: lamentations: burial.
  - (8). Exhumation: cleaning of bones: desecration.
19. Distinctions of Rank.
  - (1). Free.
  - (2). Slave.
20. Property.
  - (1). Private right.
    - (i). Definite.
    - (ii). Indefinite.
    - (iii). Inheritance.
    - (iv). Succession.
    - (v). Usufructuary.
    - (vi). Peculiar.
  - (2). Common.
21. Treatment of diseases: Surgery: Poisoning.
22. Acquired habits.
23. Drinks.
24. Masticators.
25. Fondness for Children, and Pets.
26. Games and Diversions.

<sup>166</sup> Three of the notes appended to this paper were censored (see introduction) and none were printed with the original; they are copied here from a manuscript held in the Mitchell Library, Sydney (ML reference A237: essay pp. 103–265, notes pp. 266–278).

**II. PSYCHOLOGICAL.**

27. Intellectual and Moral faculties.
  - (1). Intellectual.
  - (2). Moral.
28. Natural propensities.
  - (1). Good.
  - (2). Bad.
29. Vices.
30. AÆsthetics.
31. Acquirements.
32. Germs of the principles of Mechanics.
33. Colours.
34. Courtesy and Etiquette.
35. Sentiments and Feelings.
  - (1). Sentiments.
  - (2). Feelings.
36. The Taboo (*Tapu*).
37. Credulity: Dreams: Omens: Ghosts: Sorcery, etc.
38. Religion.
39. Death: the *Reinga* (*hades*).

**III. PHILOLOGICAL.**

40. The New Zealand a dialect of the Polynesian language.
41. Its Grammar.
42. Beauties.
43. Arbitrary change of words.
44. Proverbs and sayings: Fables.
45. Poetry.
46. Traditions: Legends: Myths.
47. Oratory.
48. Of Europeans speaking it.
49. Its extent and connexions.

**IV. PALÆONTOLOGICAL.**

50. Origin of the New Zealanders.
  - (1). Are the present New Zealanders, Autochthones?
  - (2). Were there Autochthones?
  - (3). Did the Immigrants come from nearest land?
  - (4). Whence came they?
    - (i). Probable.
    - (ii). Mythical (Sandwich Islands) considered.
    - (iii). Ditto (Samoan Islands) considered.
    - (iv). If either, still unsatisfactory.
    - (v). *Hawaiki* probably allegorical.
51. Antiquity of New Zealanders in New Zealand, proved—
  - (1). By Tradition.
  - (2). By Archæology.
  - (3). By History.
  - (4). By Habits, Customs, Manufactures, etc.
  - (5). By Language.
  - (6). By Religion.
  - (7). And possibly by the *Moa* (*Dinornis*).
  - (8). Conclusion.
52. Of the first Mythical Immigrants and their doings.
53. The question repeated:— Whence came they?
  - (i. to xxvii.) Thoughts and Excogitations.

**V. MODERN.**

54. Comprising a century: changes caused by the introduction of four animals.
- 1. Foreign or External.**
55. From A.D. 1769 to 1794: (Cook to Governor King.)
  56. From A.D. 1794 to 1814: (Governor King to first settlers.)
  57. From A.D. 1814 to 1840: (First Settlers to Treaty of Waitangi.)

58. From A.D. 1840 to 1865: Treaty of Waitangi to present year.

**2. Domestic or Internal.**

59. From 1769 to 1800.
60. From 1800 to 1840.
61. From 1840 to 1865.
62. Their numbers: past: present.
63. Their decrease and its causes.
64. Decline of Power and Influence: Reflections.

**VI. FUTURE.**

65. Fears and Hopes.
    - (1). Needful and Preparatory.
    - (2). Real and active measures.
  66. Conclusion.
- Table of Native Population, North Island of New Zealand, with Names of Tribes and Boundaries.

MUCH has been said of late about the New Zealanders. From the palace to the cottage, from the senate of Great Britain to the village alehouse,—themselves, their doings, and their country, have been greatly talked of. Not many, however, of those who have talked or written the most concerning them, have really understood them; and it is not wholly without hopes of making them to be a little better known, that the following brief Essay has been undertaken by the writer.

**§ I. PHYSIOLOGICAL.****1. Individual.**

1. In Colour the New Zealanders varied more than those of any other of the Polynesian islanders. Various hues of olive, of yellow-brown, and of an approach to the copper-colour were common. A few were of fair complexion; while others were very dusky, particularly of the more Northern tribes. Such colours, however, were not invariably perpetuated by descent; seeming rather to follow the abnormal law of all domesticated animals.

2. In Height they were generally above the middle stature, especially the chiefs; owing, no doubt, to more food and better nurture, as well as to blood. The women generally were smaller than the men. In figure both sexes were well proportioned, muscular, and fleshy; with good sized calves. The men had often finely formed fingers and nails; and many of the women had beautifully small, delicate hands. Their knee-joints were large, and their feet flat and broad, but not long.

3. Their Physiognomy varied much. Generally the open countenance, nose large and broad at the base, but not very prominent, thickish lips and dark eyes prevailed. Sometimes the nose was aquiline, but more often flat; sometimes the whole face was a handsome oval, sometimes round; mostly wearing an expression of cheerfulness and good humour. Rarely were the eyes light, never blue. The eyebrows much as in Europeans, but narrower, and seldom meeting over the nose; and the teeth beautifully regular and white (except in the case of the inland Rotorua and Taupo tribes, with whom the four front incisors were always discoloured). The head was generally well shaped, oval, with a [6] fine forehead, and well developed cerebral regions. Sometimes the forehead assumed the Turanian type, giving almost a pyramidal appearance; and a few rare instances have been noticed of an approach to the peculiar Mongolian eye and eyebrows. Very rarely has any indication of the prognathous

jaw been observed, while the orthognathous type is far from uncommon.

4. As their Complexions varied, so did their Hair. Generally it was profuse, black, and waving, or slightly inclined to curl. Sometimes it was red, of which colour there were also many shades; and sometimes it was of a very peculiar shade for human hair, being of two colours,—a dark reddish brown, having an inch or two of the tips somewhat flaxen, as if bleached. Sometimes it was lank, and sometimes it was excessively curled; and not unfrequently it was to be met with having a wiry appearance, as if every single hair was separately curled, and always in such cases rising high in a pyramidal form. With many, the beard, whiskers, moustache, etc., grew as profusely as with Europeans, and of much the same quality and colour; while a few only possessed a harsh rigid moustache, and some (particularly of the Northern tribes), were wholly without hair on the face; no doubt mainly owing to their continual and early attempts to eradicate it. In age the hair became grey, yet not commonly thin, and sometimes (though rarely) quite white. Hair on the thorax or shoulders, as in some Europeans was wholly unknown.

5. Their Frame being strongly built, and Constitution good, they were naturally long-lived, and generally retained their hair, and their teeth sound and white to the last; baldness being very rare among them. The old natives have always and everywhere affirmed, that formerly they lived to a very advanced age, and commonly only died gradually through old age. The writer is quite inclined to believe this, from the numbers of wiry, lithe, and active aged men and women he has seen among them; as well as from the testimony of Captain Cook. {Note 1}

6. Their Sensorial Faculties were particularly good—far more so than those of Europeans—no doubt, quickened both through their absolute need and constant use. The senses of seeing, hearing, and feeling, were pre-eminently vigorous and acute, insomuch that the writer has been often astonished at the quiet displays he has witnessed. To define an object plainly a long way off among the fern, or shrubs; to distinguish clearly a far off and indistinct sound among many others; to know certainly by the feel of the foot, that the dense moss in the trackless mountain forests had been before trodden by man, (an accomplishment which took the writer many years to learn,) were common things to them; though the last, in its perfection, was confined to the natives inhabiting the mountains. Their senses also of smell and of taste were peculiar, as well as keen; and though blunt and rude, were plain and unsophisticated.

7. They early arrived at the age of puberty, from 12, or even 11, years upwards; they did not, however, cease growing until 18 or 19 years. A few females have been mothers at the age of 13, but such cases were rare. Large families were by no means uncommon; very many women have each borne more than 10, or even 12, children, though they seldom reared them all. Of course the strongest lived; which was a very good kind of natural selection, no doubt highly beneficial to the race. The [7] act of giving birth, with them, was easy, and mostly a very common matter; sometimes women delivered themselves alone, and having done what was necessary for themselves and infant, returned to their usual occupations. They commonly suckled their children until they were two years old, and sometimes much older. Instances are known of married women having given birth to children when nearly forty years of age, and often after several years of cessation. Twins were not uncommon;

though three at a birth was rare. Formerly it was almost unknown for mothers to lose their milk at an early period, but of late years it has become common. If the mother's milk failed, while the infant was still very young, small birds were snared, and their flesh chewed as food for it. {Note 2}

8. Children born blind, or idiots, or deaf and dumb, were all but unheard of; tongue-tied or lisping children were also extremely rare; so were stammerers, though these have certainly increased with civilization. A hare-lipped child was unknown; children however, with six fingers and six toes were not unfrequent; so were some without any fingers on one hand, yet generally having a thumb, and with very small rudimentary nails on the fingerless stump, at the ends of the metacarpal bones. Left-handed persons were not uncommon. Hunchbacks were not unfrequently met with; caused (it is believed by the writer) by their having been injured in passing through their low doors while being borne on the parent's back;—although the natives would never allow it. The fairer children would often be strongly marked with *naevus maternus* or mole; such *naevi*, however, were almost always pigmentary, rarely hairy, and never vascular. Albinos, too, though rare, were sometimes born; in their weak reddish-pink eyes and light flaxen hair much resembling the albinos of other nations.

9. Their Diseases were but few; and among them only one which could properly be styled mortal, and at the same time general. That, however, was a fatal species of Consumption, which alone carried off half of those who died from natural causes. A fever, of a typhoid character, was also prevalent in marshy districts in the summer; which also annually took away several victims, more, however, owing to want of proper food and aid when beginning to rally, than to the disease itself. Scrofula, of a very serious nature, often attacked some of the fairest and finest children, (particularly at the northern parts of New Zealand), if, however, they survived till years of puberty they generally recovered. Sometimes it (or a kindred disease, perhaps a severe species of Leprosy, not unlike Elephantiasis, and confined to the North) attacked the miserable patient in the hands or feet, causing the fingers and toes, and even the hands and feet, to drop off at the joints. Fortunately for the poor sufferer, this disease gave little or no pain. Rheumatism, especially in the back, was very common. So also was Ophthalmia, increased sometimes to Cataract and to utter Blindness through the smoke of their close huts, the dust, and the glare of the sun. Amaurosis was occasionally met with. Dropsy was known, but rare; so was Hydrocele. Their principal skin diseases were, a virulent species of Itch (*Psora*); Boils of two kinds, and often of large size (*Furuncle and Anthrax*); Shingles, which, however was not common; an obstinate kind of Scalled head (*Tinea granulata?*); and Ringworm (*Herpes circinatus*); the two last-mentioned [8] were confined to children. Worms, especially Ascarides, were not unfrequent. Fits, of an epileptic nature afflicted some, both men and women; while a few have lost their lives through sun-stroke. Sudden deaths were rare. Insanity, mostly aberrant, of a mild melancholy type, was occasionally to be found. And a new epidemic disease, of some violent plague-like character, called by them *Rewharewha*, and which appeared about 45 or 50 years ago, destroyed nearly 3-5ths of the people of the more Southern parts of the Northern Island; in some villages and sub-tribes leaving only one or two individuals! (This name has since been given by the Maories to the Influenza—a disease of much more recent date.) {Notes 3, 4, 5}

## 2. Social.

10. In their Ordinary Habits of life they were industrious, regular, temperate, and cleanly. They loved society and dwelt together, in, or near large fenced villages (*pa*); which *pas*, or forts, before the introduction of firearms, were always advantageously situated on some eminence, and only made with a vast amount of labour. Always early risers, they naturally enjoyed their *siesta* at noon. They had two principal meals a day, at morning and evening, which were cooked and eaten hot, and always in the open air, the men apart from the women. Fire they obtained by friction; an easy though sometimes a troublesome process, often dependent on the material, its state, and the skill of the operator. No common (cooking) fire could be ever used to kindle one for warming a house, or for sitting by; nor, long after the introduction of tobacco, for lighting a pipe. Each fine day brought its daily labour to, at least, all the adults.

(1.)—The *men* to their cultivations; or to sea-fishing; or to catching birds, eels, or rats; or to digging of fern-root; or to climbing the highest forest trees for their small fruits; or to the building or repairing of houses, canoes, fences, earthworks, and eel-weirs; or to the felling and bringing out of trees and split timber from the forest; or to the making of troughs, paddles, spades, axes and their handles, spears of various kinds, and other offensive implements of stone, bone, and hardwood; (some of which required years to perfect a single article;) or to the manufacture of fishing lines, canoe ropes, and small cord; or of nets, of eel-traps, of canoe sails, and of their prized dog-skin, or Kiwi-feather, clothing mats; or to the making of combs and flutes; or to the making and ornamenting of greenstone, ivory, and bone ear-rings, and breast ornaments; or of fishhooks, circlets for tame parrots' legs, various tattooing instruments, and of tags, pins, skewers and needles, for their own dress-mats, for most of which purposes human bone was preferred; or to the seeking for, and preparing, the various coloured mineral pigments, feathers, vegetable and animal oils, and vegetable dyes used as ornament; or to tattooing, or to the drying and preserving of human heads; or to the carving of figures (some larger than life), on posts of fences, or slabs (pilasters) of chiefs' houses; or of carving boxes for feathers, or of balers for canoes, or their large and highly ornamented stern-posts, taffrails, and figure-heads.

(2.) The *women* attended to their peculiar work,—to the diurnal preparing of food, and to the coarse weaving of small baskets (*paro*) of [9] green flax, as dishes for their food; no cooked food basket being used twice; to the gathering of shell fish; to the cleaning of sea-fish; to fetching of firewood; to preparing of flax, and to plaiting and weaving it into clothing, and baskets of very many different kinds; and to their work in the cultivations,—such as weeding, etc., and above all, to the very heavy task of carrying on their backs fresh gravel thither every year for their Sweet Potatoe beds. In the summer season, too, they sought and gathered in large quantities the juicy fruits of the *Tutu* (*Coriaria ruscifolia*), and expressed its juice as a refreshing drink. They also gathered in the swampy forests the sugary fruits and fleshy edible flower-bracts of the *Kiekie* plant (*Freycinetia Banksii*). {Note 6}

11. Their means of obtaining Subsistence were as varied as the things themselves. They were not (as many have rashly supposed) deficient in food; although (having but one domestic animal and that a small dog,) what they had and used was not to be obtained without a large amount of daily labour. At the same time there must have been a great

difference in the food of the natives of the Northern and of the Middle and Southern Islands; as Cook states,—“the Southern natives have not yams, *taro* or *kumara*.” (iii. p. 56.). They were very great consumers of fish; those on the coast being true Ichthyophagi. The seas around their coasts swarmed with excellent fish and crayfish; the rocky and sandy shores abounded with good shell fish; the cliffs and islets yielded plenty of mutton-birds, and fat young shags and other sea fowl, and their eggs, all choice eating. The rivers and lakes (in their season) contained plenty of ducks and other wild fowl, and plenty of small fish and fine mussels, and small crayfish; the marshes and swamps were full of large rich eels; the open plains had plenty of quail, rail, and other birds, and edible rats; the fern lands abounded in the *kiwi* and ground parrot; and the forests yielded fine pigeons and parrots, and plump parson-birds (*tui*) together with many other birds which are now very rare; while many a rich meal was also made from the large *larvae* so commonly found in rotten wood. In seeking all these, they knew the proper seasons when, as well as the best manner how, to take them:—

(1.) Sometimes they would go in large canoes to the deep sea-fishing, to some well known shoal or rock, 5 to 10 miles from the shore, and return with a quantity of large cod, snapper, and other prime fish; sometimes they would use very large drag nets, and enclose great numbers of grey mullet, dog-fish, mackarel, and other fish which swim in shoals; of which (especially of dog-fish and of mackarel) they dried immense quantities for winter use. They would also fish from rocks with hook and line, and scoop-nets; or, singly, in the summer, in small canoes manned by one man and kept constantly paddling, with a hook baited with mother-of-pearl shell, take plenty of *Kahawai*; or with a chip of *tawhai* wood attached to a hook, as a bait, they took the barracouta in large quantities. Very fine crayfish were taken in great numbers by diving, and sometimes by sinking baited wicker-traps. Heaps of this fish, with mussels, cockles, and other bivalves, were collected in the summer, and prepared and dried; and of eels also, and of several delicate fresh water fishes, large quantities were taken in the summer, and dried for future use.

(2.) Birds, such as quail, rail, and ground parrot, also the pigeon, and parson-bird, and various species of wild duck, they ingeniously snared; [10] although they often speared the pigeon. The large brown parrot was first decoyed to a stand fixed on the top of a high tree by the cry of a tame one, and then suddenly trapped and killed by the concealed native. The *Kiwi* was caught by night, through successfully imitating its cry; and the fat frugivorous and harmless indigenous rat, was both trapped and dug out of its burrow in several ways.

(3.) A large portion of their time and attention was necessarily given to their Cultivations, especially as the few plants they cultivated,—two edible roots, the *Kumara* (*Batatas edulis*), and *Taro* (*Caladium esculentum*), and a gourd-like fruit called *Hue*, and the cloth plant, or paper mulberry tree, *Aute* (*Broussonetia papyrifera*),—each required a different soil to bring it to perfection; added to which they always wisely preferred cultivating in patches far apart, so as perchance to save one or more in case of a sudden inroad from a *tauua* (a legal or illegal, honouring, stripping, or fighting, party,) which visit was perfectly sure to take place at least two or three times a year. The *Kumara*, or sweet potatoe, was planted with much ceremony and regularity, in little hillocks in sheltered dry ground facing

the sun, carefully prepared, and heavily gravelled with fresh gravel obtained from some gravel pit, or from the bed of a neighbouring stream; this annual gravelling of their *Kumara* grounds was alone a heavy service. Among some tribes (as at Rotorua), the *Kumara* root was not planted until the sprout had gained some length, which caused additional care and labour. It had to be constantly watched when in leaf, or it would be destroyed by a large caterpillar which fed on the plant, and which was continually being gathered and destroyed in great quantities. It was also carefully weeded, and the ground around its roots loosened. When about two-thirds ripe, a few of its largest roots were carefully taken away by an experienced hand; these were scraped and dried in the sun, and called *Kao*, and were reserved to be used as a kind of sweetmeat, or delicacy at feasts, boiled and mashed up in hot water. And when the *Kumara* was fully ripe, the labour in taking it up, sorting and packing it into its own peculiar baskets for store,—including the weaving of those baskets, and the half-digging, half-building of the stores supposed to be absolutely needful for effectually keeping it, (and which were often the best built houses in the village and often renewed,) was very great. The *Taro* (of which the leaves and stems were also eaten) required a moist, and the *Hue* and *Aute*, a rich soil, with much less care, however, in raising them; but the manufacture of the bark of the *Aute* into cloth-like fillets for the hair of the chiefs, (it never was made into clothing in New Zealand) was also a tedious work.

(4.) Of wild edible Vegetable Substances they made great use; particularly of the fruits of three trees,—the *Karaka* (*Corynocarpus laevigata*), the *Tawa* (*Nesodaphne tawa*), and the *Hinau* (*Elaeocarpus dentatus*). The kernels of the first two they annually collected in large quantities, and prepared, by baking, steeping, and drying, for future provision, and which (if kept dry) continued good a long time. The flesh of the *Karaka* was also largely eaten when ripe. The fruit of the *Hinau* was also collected and placed in water to steep, to separate the dry flesh from the nuts; which powder or flour was subsequently strained, made into coarse cakes, and eaten. The common fern-root, [11] *Arihe* (*Pteris esculenta*), was also generally used; and the spots in which it grew to perfection (mostly a deep light soil, especially on a hill side or slope) were prized, and sometimes fought for. (It is a great mistake, and one often made by foreigners, to suppose, that, because the fern is common, the root which was eaten was also common. The writer has known the natives to dig and carry it a distance of upwards of 20 miles to their homes.) Much labour was also expended in procuring and preparing it; on being dug up, it was sorted and loosely stacked, that the wind might pass through and dry it; after which it was put up into bundles or baskets, and stored for use. When used, it was soaked, roasted, and repeatedly beaten with a small club, on a large smooth stone, until it was supple; a process always tiresome, both to eater and to beater, to master and to slave. It was seldom, however, eaten alone, mostly with fish; and, in the summer, soaked in the juice of *Tupakihi*, or *Tutu*. The large sugary roots of the great Cabbage-tree, or *Ti* (*Cordyline australis*), and also the small ones of the little *Ti-koraha* (*Cordyline pumilio*), were also baked and eaten; or rather the pulpy substance which is among its fibres. The sago-like pith of the stem of the large black tree fern, *Korau*, or *Mamaku* (*Cyathea medullaris*), was also baked in their earth ovens and used; it is very good and nourishing eating. The heart and blanched stems of leaves of the New Zealand Palm, *Nikau* (*Areca sapida*), and also of the *Ti* (*Cordyline australis*) were eaten both raw and cooked. The watery

farinaceous roots of *Raupo* (*Typha angustifolia*), were also eaten raw; and its pollen was made into cakes like gingerbread and baked. The fleshy blanched sugary bracts of the flowers of the *Kiekie* plant (*Freycinetia Banksii*), called by the natives *Tawhara*, and the fruit of the same (*Ureure*), when quite ripe were eagerly sought after in their season. The common sow-thistle, *Puwha* (*Sonchus oleraceus*), of which there were two varieties; and the little *Poroporo* (*Solanum nigrum*), and the *Toi* (*Barbarea Australis*), were also cooked and eaten as vegetables. So were several *Fungi* found growing in open fern lands, and in woods on trees; also a few of the sea-weed class,—particularly the *Karengo*, a low growing thin fronded species, found extensively on clayey tidal rocks from the East Cape southwards. This kind was gathered and dried for use, and sometimes carried a long way into the interior to friends as a great delicacy. Many small fruits were also eaten when ripe; such as the fruits of the large timber trees, *Kahikatea*, *Totara*, *Mataii*, and *Rimu*, (*Podocarpus dacrydioides*, *P. Totara*, *P. spicata*, and *Dacrydium cupressinum*); of the *Kohoho* (*Solanum aviculare*), of the *Poroporo* (*S. nigrum*), of the *Kotukutuku* (*Fuchsia excorticata*), of the *Karamu* (*Coprosma lucida*), of the *Ngaio* (*Myoporum laetum*), of the *Korapuka* (*Gaultheria antipoda*), of two species of Myrtle, the *Ramarama*, and *Rohutu* (*Myrtus bullata*, and *pedunculata*), and of the little heath *Totara* (*Leucopogon Fraseri*.)

12. Labour was by them divided into four great classes, viz.—(1) Male—(2) Female—(3) Sacred, and—(4) Common. Of *fruges consumere nati*<sup>167</sup> there were none. The chiefs worked equally with the slaves, especially in the cultivations, and often better and more energetically. There were no really *adstricti glebae*.<sup>168</sup> From their youth the chiefs were taught to be foremost and to excel; and as they gloried in getting a great name, they strove to do so. The men caught fish and eels, and snared [12] birds and rats; they dug and planted their cultivations; they climbed the highest trees for their fruits; they dug up the fern root; they felled the timber, and built the houses, and canoes, and made the fences, and all wooden, stone, and bone implements and ornaments; they made their fishing nets and lines, and eel traps and hooks; they performed all the tattooing; and very frequently carried their infants for hours on their backs, even while at work. The women prepared the daily food; cleaned the fish for drying; collected shell-fish, edible sea-weeds, and herbs, and firewood; weeded the plantations, and gathered up the crop when dug; cut and dressed the flax leaves for clothing and floor mats and baskets, and plaited and wove them. Their *quasi* “sacred” or taboo (*tapu*) duties, (of which much might be written,) could only be properly performed by a “sacred” person; for although in some few cases, a person not “sacred” might act, yet he sometimes most inconveniently became “sacred” by his doing so! As a rule, a “sacred” person never touched common work or things. Their common matters, however, were open to all, with this only reservation,—that men’s work was not done by women, and *vice versa*.

13. Their better Architecture and Building, (bearing in mind the nondurability of the materials used) though peculiar, was of first order, and well fitted for the people and the climate. Their houses, particularly those of the principal chiefs, were strongly and neatly built, snug, and often

167 Born to consume the fruits of the earth—born only to eat.

168 Attached to the soil (as serfs).

highly ornamented. They were cool in summer and warm in winter. The faults of all their houses were, their being too low, with excessively low doors, with earthen floors, and without chimney or sufficient ventilation. In shape they were generally a parallelogram, with their walls always slightly inclined inwards, with the angle of the roof low, and invariably with the one door and one window at the sunny end, within a pretty large verandah. In size, they were from one which would contain with ease a hundred men, to one which would only contain six. Their floors were rarely ever raised above, oftener sunk into, the ground. The window shutter, and door, each fixed in a substantial and often highly carved wooden frame, slid to and fro, and when closed all was dark within. The house having its framework wholly of *totara* wood, (of which the pilasters were often each two feet wide, and smoothed by repeated chipping with a stone adze), was built of several coats of bulrushes, securely fixed with flax, having a handsome ornamental lining of reeds to the roof and between the wide pilasters, covered outside with one or more coats of strong thatch firmly fixed, and often with the bark of the *totara* pine, laid on in large slabs. On the large and wide barge-boards, posts, ridgepole, and ends of the verandah, much grotesque carving and ornamental work was often displayed; these were mostly coloured red. Their sweet potatoe stores were also often elaborately finished. Sometimes their stores were neatly set on high posts, which were not unfrequently carved; and were climbed up into by means of a notched pole as a ladder. Their common houses though plain were often very strongly made; sometimes, however, their walls were not more than two feet high, with a prodigious roof. No observable order was followed in placing their houses in a village; throughout which there were ways of communication in all directions, but no proper streets. Each sub-tribe, or family, generally enclosed with an inner fence, having [13] around their own houses apertures for ingress and egress. The outer fence of the village, often composed of whole timber trees set in the ground, without their bark or branches, and from 15 to 20, or even to 30 feet in height, and strongly secured with transverse timbers cross-lashed to the uprights with durable supple-jacks and vines from the forest, looked very formidable and was very strong. All its posts were surmounted with human figures as large as life, *in puris naturalibus*,<sup>169</sup> elaborately though roughly carved out of solid wood, with faces in every conceivable or inconceivable, state of distortion. Inside this was generally a second wooden fence, made like the outer one but of lighter materials, within this were excavated earthworks. Sometimes the wooden fences, or some portions of them, were raised on earthworks; and sometimes they were made to overhang a cliff or side of a hill, as a *chevaux de frise*, presenting a low angle with the horizon.

14. If there was much to admire in their House-architecture and fortification building, there was still more in their Naval architecture; bearing in mind (as before) that they did all without the aid of iron or any metal; their solid and strong double canoes (*wakaunua*), long since extinct; and scarcely known even by name to the present generation; their handsome well arranged war canoes, of which there are not many, and perhaps not a single first-class one left! Their fishing and voyaging canoes, also with raised sides;<sup>170</sup> and their common canoes of several kinds and sizes, formed out of a single tree and often of great length. A first-class war

canoe, with all its many fittings—its hundred paddles, its handsome elaborately carved stem and stern, and all its many ornaments and decorations of feathers, *rouge*, and mother-of-pearl, was always the work of many hands throughout many years. Fully to complete one was indeed a triumph, in which many hearts would heartily join: so true it is,—

“A thing of beauty is a joy for ever!”

Their largest canoes were rigged with two masts, and carried a large light triangular-shaped sail to each. Their smaller canoes had only one similarly shaped sail. Besides their canoes, they sometimes made use of rafts for crossing streams and inlets when the water was deep; such, however, were only made for the occasion, of dry bulrushes, or the dry flowering stems of the flax plant, tied together in bundles with green flax. In some places, (as about the East Cape, where there are no harbours), the natives made use of an open frame-like raft of light wood, on which they went out to sea for some distance; and of late years have not unfrequently visited ships on such, carrying with them two or three baskets of potatoes.

15. They also excelled in some few Manufactures, more particularly in their textiles; in this respect far surpassing all the other Polynesians. Nature having bountifully given to them that most useful plant, the New Zealand flax, or *Phormium*; which was very nearly to them what the Cocoanut palm is to the Indian.

(1.) From this plant they wove a very great variety of dress mats; from the large elegant and silky bordered *Kaitaka* of the chiefs, to the common [14] *pakē*, or rough bee-butt-like cape, for the shoulders against the rain and cold. Much time was necessarily occupied in weaving a first quality dress-mat; the seeking the variety of flax requisite, and the scraping, preparing, and selecting of its fibre; the tewing it to make it soft and silky; the slow weaving; the further seeking of the different barks and earths required, for dyeing the flax in three colours for its lozenge border, to which they always gave the utmost attention. Under the most favorable circumstances one of those best mats could scarcely be finished in two years. Some of those mats were made very soft by repeated tewtawing. All were more or less ornamented; some with a wide border woven differently from the body of the mat, and dyed with enduring colours; others having a profusion of fine glossy black tasselled strings, about 5 or 6 inches long, regularly depending at equal distances from them; others with a rich border of black, or black and white, fringe; and others (*Korirangi*), were thickly adorned with chequered black and yellow strings, which being also hard in spots or joints through the leaving on of the skin, etc., of the flax, rattled pleasingly with every movement of the wearer. Their more common and daily rough and shaggy dress mats, though anything but ornamental, were exceedingly useful and excellently adapted for preserving their health. Being waterproof, this mat kept them dry and warm in the severest weather; being loosely worn, it allowed of free ventilation; and being rough, it kept up that healthy slight irritation of the skin which to them was indispensable. They also used other fibrous plants for clothing mats although the flax (*Phormium*) grew everywhere. The strong durable and wholly black dyed mat called *Toii*, was made of the fibres of the handsome large leaved mountain *Cordyline (C. indivisa)*. The long leaves of the climbing *Kiekie* (*Freyycinetia Banksii*), and of the *Neinei*, or large leaved *Dracophyllum latifolium*, were also used by them; while the

169 Naked.

170 WC: Commonly called “War Canoes” by the Colonists.

bright yellow leaves of the *Pingao* (*Desmoschænus spiralis*), were woven into useful purse-like girdles. The Natives in the more southern parts of the group, also wove very useful flax sandals for wearing on the snow. The floor mats, of various sizes, patterns, and fineness, were also neatly woven of flax or *Kiekie* leaves, separated by the thumb nail into narrow slips; or of the leaves of the large cutting-grass *Toetoe* (*Arundo conspicua*), denuded of its edges; or of those of the *Nikau* palm (*Arica sapida*); of all which materials they also made their numerous baskets, of many patterns, kinds, and sizes. Some of their fancy baskets woven in elegant patterns with dyed leaves, were highly ornamental. They also made strong and serviceable dress mats of the hairy skins of their dogs, and also of the feathers of the *Kiwi* (*Apteryx*); for which they wove a strong lining of flax. Their dogskins they always separated into narrow shreds, which they firmly sewed together, so as to variegate the colours according to the fancy of the maker and owner; or sewed in stripes upon a stout woven lining of flax—not unlike sackcloth. The flax plant also furnished them with excellent material for their many and various threads, twines, cords, lines, and ropes. These they commonly made of 2, 3, or 4 twist; which operation was always performed with the hand on the naked thigh! They also made their several kinds of drag and hand nets, of various sized mesh, of its undressed leaves; of which, and of the leaves of the *Ti* or cabbage-tree (*Cordyline Australis*), [15] they plaited flat, round, and square ropes, for their canoes, nets, etc. Their canoe sails were curiously constructed of bulrush leaves (*Typha*), laid flat edge to edge, and laced across with flax.

(2.) Their Implements of Agriculture, were made of hard wood, and were few in number. The principal one was a *ko*, a rude kind of narrow and pointed spade with a very long handle, to which, at about 18 inches or more from the point, they fitted a small crooked bit of carved wood, as a rest for the foot. Much smaller implements of a similar shape were used for digging around the plants, and for breaking the clods; these last they used in a sitting or squatting posture. Their canoe paddles, and fish spears, were also made of hardwood, *Manuka* (*Leptospermum scoparium*); but their bird spears being very long, some upwards of 30 feet, were made of the light wood *Tawa* (*Nesodaphne tawa*). Their war implements of wood were made both of *Manuka* and *Rimu*; the curious halbert shaped *Wahaika*, the broad *Meremere* (or hand club), for close quarters, and their short spears, were made of the former; and the long spears of the latter, wood. They also made darts with heads of light combustible materials; these they used in attacking a *pa* or village. Their saw-knives, used for cutting up the flesh of whales, etc., were also made of hardwood; some were edged with sharks' teeth. Their fishhooks, had the shaft made of the fossil bone of the *Moa* (*Dinornis*), and the barb of human bone, with a small tuft of metallic blue feathers of the little penguin attached; some were also made of the tough crooked roots of shrubs, hardened by fire; to some of which a glittering piece of mother-of-pearl shell was attached as a lure. Their sinkers, for deep sea fishing, were made of stone, which they cut and notched to suit; sometimes using a large fossil bivalve, and sometimes a piece of rock which had been perforated by a *Pholas*.

(3.) Their stone Axes of various sizes, used for felling trees, shaping canoes, and many other purposes, were made of three, or more, different kinds of stone;—the green jade, or axe stone; a close-grained dark basalt; and a hard grey stone. A piece of broken shell was commonly used for cutting, scraping, carving, etc.; but for cutting their own

bodies (in lamenting for the dead, etc.), as well as for cutting their hair, and sometimes for carving, they used a thin piece of obsidian. One of their most ingenious instruments, was a kind of wimble, or drill, composed of a small cylindrical piece of wood, produced to a point at one end, to which was fixed a small angular quartz stone; two strings were also fastened at the opposite end, these being repeatedly pulled by both hands in a contrary direction, (the stone to be bored, etc., being firmly held by the feet,) a hole was in time perforated. They used the wedge (*matakahi*) in splitting trees; and another simple machine, composed of a short lever with short straps, on the plan of a tourniquet, was also used by them in expressing oil from the seeds of the *Titongi* (*Alectryon excelsum*), etc., etc. For water vessels they commonly used the hard and fully ripened rind of the cultivated gourd, *hue*, which sometimes attained to a large size, hardened by baking, sun and fire. The larger calabashes were selected for potting fat birds, and similar delicacies, in their own fat. Oil was often kept in the smaller calabashes; also in dilated joints of kelp, and in the stout double air bladder of the curious sea-porcupine fish (*Tetraodon*, sp.) [16] {Notes 7, 8}

16. They cultivated the Ornamental as well as the Practical. This has been already shown (in part), in the manufacture of their clothing mats, in their canoe decoration, in their carving, etc. Their greenstone ear and neck ornaments belong to this class; which, from their shape, polish, and tenuity, as well as from the well-known hardness of the stone, must have taken an enormous time to finish. The *Mako*, or teeth of the long snouted porpoise (a species of mammalia rarely indeed to be met with,—driven on shore, at least), was also greatly prized for ear ornaments. The black and white tail feathers of the bird *Huia* (*Neomorpha Gouldii*), and the snowy plumes of the *Kautuku* (*Ardea flavirostris*), were greatly prized, to adorn the heads of their chiefs; the former were snared in their proper forests, by skilled natives imitating their call; the latter was (in the Northern Island) rarely seen, and yet they sometimes managed to capture it alive, and to keep it so in a cage for a considerable time for the sake of its feathers, which they regularly plucked. The white down of the Albatross, and of the Gannet, was also worn by the chiefs both in their hair and ears, as ornaments; while the women often wore suspended to their necks, the mottled feathers of the Paradise Duck, and of the little blue Teal of the mountain rivers. They also ornamented themselves by wearing in their ears, the beak and feathered skin of the *Huia* deprived of its tail feathers; and also of the *Tui*, or parson bird, and of the elegant little glossy Cuckoo, or *Pipiwharauroa* (*Chrysococcyx lucidus*), while the long tail feathers of the larger Cuckoo, or *Kohaperoa* (*Eudynamis taitensis*), they also wore in their hair. Flowers were also sometimes used for this purpose; especially the elegant climbing *Puawananga* (*Clematis*, sp.), and neat *Waewaeukoukou* (*Lycopodium volubile*), of both which the women often made graceful wreaths and garlands. They carved handsome staves (*Hani* and *Taiaha*), out of the hard variegated wood of the *Ake* (*Dodonea viscosa*); which weapon was used both as insignia of rank, and for defence; this they further ornamented with mother-of-pearl eyes set into the wood, and with small red feathers, obtained from under the wings of the brown parrot, firmly fastened around it, and with the prized long white hair of their dogs' tails, neatly quilled up into little queues and pendant from it. Then their Musical Instruments (rude though they were and possessing only a few notes) were several; perhaps they would have improved these had they possessed proper material for making them.

Their 3 or 4 flutes of different sizes were made of human bone, or the hollow stems of the *Tutu* (*Coriaria ruscifolia*), or of the *Kohoho* (*Solanum aviculare*); or of two pieces of hard wood, cleverly constructed and fitted together, having the joining in the centre, where, too, it was much larger. Their trumpet was made of a large conch shell (*Triton variegatum*), and sometimes of a piece of wood. All their musical instruments were also more or less carved and ornamented. Their larger war-gongs were made of *Mataii* wood, and were suspended in their forts. Their combs for their hair were also both neatly made and carved; these however were not used as combs commonly are by us, but by the chiefs to keep up their hair, much as English ladies use their high back-combs. The cloth-like inner bark of the *Aute*, or paper mulberry, was manufactured only for head ornaments, for which sole purpose too the exotic was carefully and annually cultivated. They very elaborately carved their boxes for [17] holding their *Huia* and *Kautuku* feathers; and so they (afterwards) often did their tinder-boxes. They also carved the deep circlet necks, or collars, of hardwood, which they neatly fixed on to their large provision calabashes for potted birds; to which they also fitted tripod-like stands. The *poukaakaa*, or parrot perch, was also generally carved and ornamented. And they assiduously sought, and only obtained with much trouble and preparation, their favorite colors of red and blue mineral pigments, with which to ornament their bodies, as well as their chiefs houses, canoes, store-houses, tombs, and boundary posts.

17. Buying and Selling for a price (as practised by us) was unknown to them. Such was not wanted where every man, or household, had nearly alike, and made their own commodities. They had, however, a kind of Barter, or Exchange;—or, more properly, a giving to be afterwards repaid by a gift. Dried sea-fish, or dried edible sea-weed, or shark oil, or *karaka* berries, would be given by natives living on the sea-coast to friendly natives dwelling inland; who would afterwards repay with potted birds, or eels, or *hinau* cakes, or mats, or *rouge*, or birds' feathers and skins. So, a chief would give to one of his own, or of a friendly tribe, some article as an acknowledgment or equivalent for building a canoe, carving, etc., but always without any kind of stipulation or fixed price. Or, he would make a present (always to be repaid), of a canoe, or a dress mat, or a stone war weapon, or a dog, to some other chief, generally to one of higher, or equal, rank than himself; but all without anything like price stated. And when the return gift was made, it was always stated to be such, for if not so stated it would not be so considered (want of knowing this has occasioned much misunderstanding between them and whites). A return gift was always expected to be a larger one than the one which occasioned it. Sometimes they sought to exchange one thing for another, especially with strangers visiting, but this was very rare.

18. The four great yet ordinary events to a New Zealander, were Birth, Marriage, Death, and Exhumation; to which may be added, the ceremony of Naming, the arranging of Betrothal, and Tattooing. On all these occasions there was great feasting; particularly in the case of death and exhumation;—when, too, there was grievous lamentation, much of which was very often real. Time, however, will not permit of anything more at present, than a passing mention of those matters.

(1.) At the Birth of a child, especially of the first-born of a couple of high rank, there was quite as much rejoicing as in

more civilized countries. The maternal aunt, or maternal grandmother of the infant was generally present and ruled on such occasions,—if not, then the paternal grandmother took her place. Sometimes the birth of a daughter was preferred to that of a son for political reasons. Of course, the spot where the child was born (if in fine weather in the open air), everything touched or used, and all who had anything to do at the birth, were strictly tabooed (*tapu*),—under customary restraint, or “legally unclean,”—set apart for the time from every ordinary matter. The umbilical cord was tied with scraped flax, which sometimes slipping caused a protuberant navel, and not unfrequently hernia; which latter, however, disappeared at adult age. The natives have been charged with compressing the infant's nose, to flatten it; and while this has been commonly [18] denied, it is evident, that the nose salutations (*hongi*, nose-rubbing), it was continually receiving from its mother and relatives, must have had a great tendency that way: besides, flat noses were always admired. Soon after its birth they commenced rubbing down its knee joints, in order to reduce the inner part of the joint, and so make them “handsome.” For this purpose the infant was placed face downwards by its grandmother, or by one of the elder women, on her closed legs, and its little legs and knees rubbed downwards with pretty much squeezing of the inner knee; this operation was daily, or oftener, performed during several weeks. Female infants had the first joint of their thumbs half disjoined, or bent considerably outwards, to enable the woman the better to hold, scrape, weave, and plait flax. At an early period, the little ears of the infant were bored with a sharp fragment of stone, or bit of obsidian; an operation generally performed by its mother.

(2.) Betrothal often took place at, or shortly after, birth (if not indeed, mentally, and conditionally, before). This was almost certain to ensue in the case of simultaneous births of opposite sexes among friends of equal rank, or distant relatives. If not then arranged by the parents, or uncles, it was generally done during the early childhood of the children. While, no doubt, all such affiances arose from both good and political motives, nothing the New Zealanders ever did caused them more misery—and yet they could never be brought to see it.

(3.) “Naming” of the child also followed soon after its birth. This ceremony was always performed by a “priest,” (cunning wright, or skilled man, who managed all such secret and mysterious matters, of exorcism, objuration, or incantation)—it has been called by Europeans, the “naming” of the child, but it does not mean that; it has also been called “baptism,” and compared with Christian baptism, and the term, *iriiri*, adopted, (rather unwisely) to express that ordinance. No doubt it was a high ceremony in the eyes of a New Zealander; but it was nothing else than a removal of the *tapu*,—restraint, or prohibition,—under which the child and mother lay,—more a rite of purification than anything else. If the child was a boy, the “priest” expressed his wish that he should be brave and manly; if a girl, that she should be efficient in all those peculiar duties pertaining to her sex.

(4.) About the age of puberty the Tattooing operation was begun on both sexes; as, in the case of the man, it took several years to complete, and in that of the woman it was necessary, at least, that her lips should be finished ere she could have a husband; *red* lips in women being abhorred, and *black* ones being considered the perfection of beautiful feminine lips. Regular tattooing, in the *male*, was confined

to the whole face and to the breech, and sometimes to the thighs: certainly some were very handsomely done. In the *female* it was confined to the lips, chin, between the eyes, and a little up the forehead, and on the back part of the leg, from the heel to the calf; the three last-mentioned being always indicative of rank. The women, also, often got themselves irregularly marked on their hands, arms, breast, and face, with small crosses, short lines, and dots. A very few women the writer has seen with tattooed faces just as a man; these belong to Southern tribes; some of whom formerly had a very different style of tattooing (such as is shewn in Cook's Voyages, plate 13, 4to. edition). The Chiefs wore their hair long, [19] and dressed up into a knot on the top of their heads; the women wore it cut short.

(5.) At the Marriage, or coming together as man and wife of the young couple, there was really no ceremony; indeed they have no proper name for it in their own language. It was known as, "*noho tahi*," or "*moe tahi*," or "*whakamoe*,"—*i.e.*, dwelling together, or sleeping together, or causing to do so. If they had been betrothed by their parents, it was merely a matter of time,—(always supposing no rupture, or anything serious having occurred, which, however, was rarely the case,)—the mats being woven, and the provisions ready for the feast, and the parents, brothers, uncles, and tribe, being of opinion that the long looked for dwelling-together should take place, (which they were often too ready to do) and the young couple also willing, the betrothed bride was brought, generally by her brothers and uncles, to the house of the bridegroom's parents, clothed in new mats, where she was received with acclamation, and given over to her husband; by whom and by his people gifts were always made to the parents of the girl. If, however, there had been no betrothal, a marriage between young people was always a very difficult thing to effect, and one which took some time; as everyone, of both the tribes, had something to say, and must be satisfied ere it could take place; particularly the uncles and aunts, the sisters, and female cousins of the young man, and the brothers and male cousins of the girl. Hence, the young couple, disgusted, often ran away to the woods, and there remained some time together in solitude, pretty sure of being soon sought after, and their living together acquiesced in. Contrary to what obtains (openly at least) among us; with them, the unbetrothed young woman commenced the courtship; not unfrequently, however, (even after all the relations had agreed,) other suitors appeared at the last moment, and a passionate and severe struggle took place,—sometimes ending in the forcible abduction of the girl, (especially if the newly-arrived suitor was a person of high rank,) after being nearly killed through the pulling and hauling she received.

(6.) Polygamy being encouraged, and divorce allowed, all chiefs had several wives; which increased their power and influence considerably. Polygamy was not the cause of disagreement or jealousy among the wives, who lived together in great harmony. Nor did it cause a disproportion of marriageable women, as many males were being continually killed in their frequent battles. The *sudden* bringing home of a new wife, which sometimes happened, (perhaps a slave, or from a distance,) as a matter of course made quite a sensation among the old wives, but it was only temporary. Often the old wives themselves encouraged their husband to take another, and aided efficiently in his doing so. Their injudicious early betrothals, (marriages of policy, not love,) which *must* take place; their great desire of offspring; their belief that barrenness always proceeded from the female; and their rule of a brother always taking

the widow of his deceased brother; were among the main causes of polygamy. Politically speaking, had polygamy and divorce not been too early and rudely ecclesiastically interfered with and prohibited, the New Zealanders as a nation would, in all probability, have now been very much more numerous and better off.

(7.) Death was always gloomy to a New Zealander, and yet they [20] often met the "king of terrors" bravely. Whether they slowly died from disease, or from barbarous cruelties practised by their enemies;—whether suddenly from unlooked for casualty, or the excited anger of a superior, or in the battle-field, they all, young and old, of either sex, died bravely, though not willingly. This is the more striking, from the fact of their belief, that, whether they died at home from disease, or at sea from a canoe upsetting, or from a fall from a lofty tree, or through a house taking fire, or in the battle-field, or as a captive,—such was invariably owing to the anger of the *Atua* (or, man-destroying demon). Often did they when sinking, calmly give their last words (alas! too frequently of deadly revenge) to their weeping relatives; which burning words the hearers treasured up never to be forgotten. They rarely ever died in a good house; mostly in the open air, or under some wretched shed; this was done because the house in which anyone died would have to be forsaken as *tapu*. At death there was much loud lamentation, accompanied with gashing themselves on their arms, chests, and foreheads, through which the blood flowed profusely. They also further disfigured themselves by cutting their hair close on one side; sometimes a few locks of long hair were left untouched, and these were seldom afterwards trimmed, but allowed to grow and mat together as a constant and ever present *memento* of the departed. The whole place was very sad; several of the principal resident mourners have been known to die from sheer exhaustion. Such miserable wailing continued for a long time; as fresh parties of mourners kept continually arriving. Some came before the body was removed; some not till long after; but this made no difference. All sang and wailed with much gesticulation and lacerating of themselves, with their faces towards the deceased, or his tomb, or the place where he had breathed his last; the burden of their lament invariably being, "Go, go, depart, depart; go before us to thy people: we follow." The body was sometimes tied up in a sitting posture, and clothed, and placed with its greenstone *mere*,<sup>171</sup> etc., in a small house, or mausoleum, prepared for it. Sometimes, though not frequently, it was boxed up in the corner of the verandah of the house in which it had lived; oftener it was placed on a small canoe or bier, and taken to a gloomy forest (anciently set apart for the purpose), and there put up in the broad forked branches of some dark tree. In all such cases to remain until the flesh should have decayed.

(8.) The Exhumation, or *hahunga*,—*i.e.*, cleaning of the bones,—sometimes took place within a year after death. For this work great preparations were made—in the way of preparing provisions; and not unfrequently the ceremony was put off until a sufficiency should have been provided. Of course all engaged in cleaning the bones were very *tapu*;—and rightly so. Not one of the smallest was ever left behind; they were cleaned, anointed, and decorated, the head especially, with feathers and ornaments. After being exhibited, seen, wept, and wailed over, they were carried by a single man and near relative to their last resting place. The exact spot of deposit, for wise political reasons, being only

171 WC: Short cutting club.

known to a select few. Sometimes the bones were thrown into some old volcanic rent, or chasm; sometimes thrown into very deep water-holes; [21] and sometimes neatly and regularly placed in a deep, dark cave; always, if possible, wherever those of his ancestors happened to be. Their principal object being, to prevent their falling into the hands of their enemies, who would dreadfully desecrate and ill-use them, with many bitter jeers and curses. The skull might be made to serve as a dish for food, or be placed on a stake to be daily mocked,—or even taken out to sea on fishing excursions to be taunted and derided afresh there with new indignities. The bones of the body would also be used for fishhooks, flutes, needles, skewers, dining-forks, etc. All such ill-usage was always dreaded and detested. Some tribes, especially the Ngatiporou, (E. Cape) extracted the teeth, and, having strung them, wore them as a necklace. {Note 9}

19. Of Rank and Class, the New Zealanders had keen and clear (if not subtle) distinctions. First, there were the great ones of bond and free:—

(1.) Of the *free*, there were—(a.) the *ariki*, or head of the tribe, being the first-born (male or female) by the eldest branch; the lineal heir, or heiress—(b.) the principal man (*tino tangata*) or head of the sub-tribe—(c.) his brothers and sisters, and half-brothers and sisters by other mothers—(d.) his uncles and aunts, cousins, etc. The tribe or sub-tribe having sprung from one progenitor, the greatness of any one of it depended, partly, on his nearness to that progenitor, and, partly, on the rank, power, and influence of his own immediate parent or ancestor (male or female), who had married into the tribe. Thus, paradoxical as it may appear, the children were often of higher rank than either of their parents; this often caused what would be by us termed gross insubordination. The children of a principal chief by wives of unequal rank would not all be of one rank; as their rank always depended on that of their mothers as well as on that of their fathers. The first-born of the eldest of the tribe, whether male or female, was called *ariki*, (*i.e.*, first-born, heir, high chief, or ruler) and besides his high rank had great privileges. Of him, or her, great care was taken. To him from his birth, being of much higher rank than his father or mother, it was, as if the world around was made for him. In every case the eldest child ruled all the younger children; and they generally promptly obeyed him. Sometimes, in consequence of the will of the father, or owing to a quiet or retiring disposition, to bodily deformity or ailment, to want of capacity, or of signalizing himself, on the part of the elder child, or to the scheming daring character of the younger,—the younger superseded the elder, and governed the tribe in all ordinary matters; but not in the greater tribal matters. A chief generally lost his influence among his own tribe, if not his rank, by not asserting his position and rights. Here, as in other countries, *might* very soon became to be considered as *right*. Hence the constant exertion and struggle, and the difficulties continually arising in the daily jostle of New Zealand life. Chiefs of rank were also known by their tattooing, dress, insignia, and ornaments. The black and white tail-feather of the *Huia* bird, and the white plume of the crane (*Kautuku*), were worn by them alone in the hair; the prized tooth (*mako*) in their ears; the quaintly carved greenstone *heitiki* suspended on their breasts; and the greenstone *mere*, and ornamented *hani* in their hands; these, with their best mats, of flax, dogskin, and birds' [22] feathers, were all for patrician ornament and use—(e.) Poor men and low plebeians, though free, were the children of remote lateral descendants of a tribe, especially if their mothers, or fathers, had been slaves—(f.) Successful

“priests,” and skilled artificers, both male and female, whether belonging to the tribe or not, always gained both renown and influence, whatever their proper rank might be; so did the brave warrior, and fortunate fisher, and bird snarer. The “priest,” however, lost his influence the moment he ceased to be successful,—or, to be believed, on which his success depended; hence all manner of lying props and stratagems were used.

(2.) With the *slave*, too, it was much the same; if skilled, or if active and industrious, and willing to serve his new masters, he was sure to rise and have some influence; which, however great his rank might have been in his own tribe, he would never again have there,—even if he could return. This was a strange and cruel *trait* in their character, but it is easily understood, when it is considered, that his own tribe attributed his being enslaved to the anger of the *Atua*, (evil demon) and that by his becoming so he had lost his *tapu*; and if they were to compassionate and restore, they too would incur the anger of the *Atua*, which they dreaded above all things. Slaves have been known to rise to very important positions among their new masters; and, even when having opportunities to escape, or set at liberty, to choose to remain and live and die with them. The writer has known several instances, especially among the Ngapuhi (Bay of Islands) tribes, in which the slave, although without original rank, has become the principal man, or leader, in the sub-tribe in which he was a slave. A New Zealand slave had full liberty, even of speech, before his masters, and plenty to eat; and was generally as cheerful as the free. True, he could not wear the clothing, or ornaments of patrician rank; nor would he be greatly bewailed at death; nor have his bones ceremonially scraped; but these things *now* did not move him. Those about him knew, and he too knew, that his lot of today might be theirs tomorrow. Bad, irritating language was sometimes used towards a slave by tyrannical, passionate masters; but such was the exception, not the rule, and was secretly disapproved of among themselves. All things considered, ordinary slavery among the New Zealanders was not so bad as the word imports, and as some Europeans, from want of due knowledge, have made it to appear. {Notes 10, 11, 12}

20. Their views of *property* were, in the main, both simple and just; and, in some respects, (even including those most abnormal), wonderfully accorded with what once obtained in England. Among the New Zealanders property may be said to have been divided into two great classes,—immovable and movable;—or, ordinary and extraordinary;—or, peculiar and common;—perhaps the latter definition may be most advantageous for consideration.

(1.) *Of peculiar, or private, rights:*—With them, every man had a right to his own, as against every one else, but then this right was often overcome by might. A man of middle or low rank, caught, perhaps, some fine fish, or was very lucky in snaring birds, such were undoubtedly his own; but if his superior or elder chief wished, or asked for some, he dared not refuse, even if he would. At the same time such a gift, [23] if gift it might be termed, was (according to custom) sure to be repaid with interest, hence it was readily yielded. The whole of a man's movable property was his own, which included his house and fences, as well as all his smaller goods. All that a freeman made, or caught, or obtained, or raised by agriculture were his own, private and peculiar; his house erected by himself was his own, but if not on his own land (rarely the case) he could not hold it against the owner

of that spot, unless such use had been openly allowed to him by the owner before all (*i te aroaro o te tokomaha*). So a plantation planted by himself, if not on his own land (also a rare thing), he would have to leave after taking his crops, on being ordered to do so; but not so if he had originally and with permission felled the forest, or reclaimed that land from the wild; in which case he would retain it for life, or as long as he pleased, and very likely his descendants after him. To land, a man acquired a peculiar right in many ways.

(i.) *Definite*:—(a.) by having been born on it, or, in their expressive language, “where his navel-string was cut,” as his first blood (ever sacred in their eyes) had been shed there—(b.) by having had his *secundines* buried there, (this, however, was much more partial)—(c.) by a public invitation from the owner to dwell on it—(d.) by having first cultivated it with permission—(e.) by having had his blood shed upon it—(f.) by having had the body, or bones, of his deceased father, or mother, or uterine brother or sister deposited, or resting on it—(g.) by having had a near relative killed, or roasted on it; or a portion of his body stuck up or thrown away upon it—(h.) by having been bitterly cursed in connection with that piece of land, *i.e.*—this oven is for thy body, or head; on that tree thy liver shall be fixed to rot; thy skull shall hold the cooked birds, or berries of this wood, etc.—(i.) or by the people of the district using for any purpose, a shed which had been temporarily put up there and used by a chief in travelling.

(ii.) *Indefinite*:—(a.) by having been invited to come there by the chief with a party to dwell (*lit.* having had their canoe in passing called to shore)—(b.) through his wife by marriage, (but such would only be a *quasi* life-interest to him—*i.e.* during her life and infancy of the children; as, in case of children, they would take all their mother's right)—(c.) by having assisted in conquering it—(d.) by having aided with food, a canoe, a spear, etc., an armed party who subsequently became conquerors of it. All these equally applied though he should belong to a different tribe or sub-tribe.

(iii.) Beyond all these, however, was the right *by gift or transfer*, and *by inheritance*, which not unfrequently was peculiar and private. This, (which has of late years been much contested, and too often, it is feared, by ignorant and interested men, or by those who have too readily believed what the talkative *younger* New Zealanders *now* say), may clearly be proved beyond all doubt—(1.) By the acts of their several ancestors (great-grandfathers) to their children, from whom the present sub-tribes derive their sub-tribal names, and claim their boundaries; such ancestors divided and gave those lands simply to each individual of their family, which division, and alienation, however unfairly made, has never been contested—(2.) By their ancient transfers (gifts or sales) of land made by individuals of one tribe to individuals of another, as related by themselves; [24] and from which gift, or alienation, in many instances, they deduce their present claims. (3.) By their earliest (*untampered*) sales and transfers of land to Missionaries and to others; which were not unfrequently done by *one* native. (As was notably the case in the *first* alienation of land by deed, to Mr. Marsden at the Bay of Islands, in 1815.) Although the foreign transferees (not knowing the native custom,) often wished others being co-proprietors to sign the document of transfer; and this, bye-and-bye, came to be looked upon as the New Zealand custom; whence came the modern belief that *all* must unite in a sale; and thence it

followed that one could not sell his own land! But such is not of New Zealand origin.

(iv.) Their *order of Succession of Inheritance*, as clearly shown in their genealogical recitals, etc., was from father to son; but on the demise of the eldest, the next brother succeeded to the inheritance, *pro tempore*, and so on; eventually, however, reverting to the children of the senior brother, and mainly to the eldest of them. Hence, a New Zealander in speaking of his right to land, (even after the decease of his parent through whom he derived his title) preferred to mention his grandfather's name, and himself as deriving from him. It must not be forgotten, that the living brother invariably took to wife the widow of his deceased brother, unless she destroyed herself, or he was willing to forego his right: this, also often entangled the succession still more, especially to a European.

(v.) *Usufructuary*:—Of which two classes may be here noticed. (1.) *Permanent*: as the right of a man to a hidden rock, or shoal, at sea for cod-fishing; to a tidal bank for shell-fish; or to a certain wood, or tract of land, for taking certain birds; or to a defined portion of a plain for quail and rats; or to a forest, for *hinau*, *tawa*, or *karaka* berries; or to a defined portion of a flax swamp for cutting flax; or to a spot for an eel-weir; or to a hill, etc., for digging fern-root. Sometimes there would be a double-right to the usufruct of the same estate, *i.e.* one man or family would have the right to the eels, another to the ducks: one to the fern-root, another to the rats, quails, etc. Those permanent usufruct rights often originated in transfers or gifts, and generally continued in the first line of descent. They were mostly easily managed by the New Zealanders before the incoming of the European; or, rather, before the younger natives became infiltrated with novel European notions. (2.) *Temporary*:—often only for a year or season; such as, to the fruit (juice) of the *tutu* shrub, or to the watery honey of the flax (*phormium*) flowers, growing within certain bounds—to the young shags of a certain cliff—to the *Inanga* (whitebait), or other annual fish, of a certain part of a stream. In all such cases the right was generally made known by a pole being stuck up with fragments of wearing apparel, or a bunch of flax, grass, or such like, tied around it; and this was usually respected.

(vi.) There were also other *peculiar rights* to property,—such as that of the *ariki*, or head chief, to a whale, porpoise, or dolphin (“royal fish,”) cast anywhere on shore within his territories; to a white crane, if in any of his streams. (These, on being seen, should not be touched, but information given directly to him, the supreme lord.) Also, to any wreck driven on a desolate shore; but a wreck of any kind, or even a canoe and property of friends and relatives upsetting off a village, and drifting on shore where a village was, became the property of the people of that [25] village; although it might be that the people in the canoe had all got safely to land or were coming by special invitation to visit that very village, perhaps to lament over their dead! Strangest of all, the (unfortunate?) people in the upset canoe would be the very first to resent—even to fighting—any kind alleviation of this strange law! so that such conduct, while appearing to us (as Blackstone says) to be “consonant neither ‘to reason nor humanity,’ was not to them the ‘adding of sorrow to sorrow.’” So also, goods floating at sea (a canoe, etc.); or found on the high-road; or anywhere dropped, not hidden; became the property of the finder. Recently hidden property, if discovered, was restored to its owner, on its being clearly identified; but anciently hidden property

(mostly stone axes, and stone ornaments), became the property of the lord of the manor, who sometimes gave it (*ex proprio motu*) to the descendants of the person, when known, to whom it had belonged.

(2.) *Of common rights.* Such everywhere existed, both to—(a.) movable, and to—(b.) immovable property.—(a.) As where several joined together,—to build a village,—to build a large house,—to make a large net,—to fell a forest, and to plant the ground,—to fish, with a seine net, or to snare birds in company,—to make a large eel-weir, etc., etc.—(b.) to land, including what it spontaneously produced (which latter was often of the greater moment to them):—such was common and unrestricted for every purpose to all the tribe, and to their relatives by marriage of other tribes, and to their friends. Always excepting any such isolated peculiar claims and rights as those already mentioned. Hence, any one of the tribe, or sub-tribe, would clear a portion of the forest for planting,—or set fire to the fern or swamp; or select and mark for himself a tree in the wood, to be hereafter felled by him and made into a canoe, etc. {Note 13}

21. Their Treatment of Internal Diseases, excepting, perhaps, rheumatism, was altogether bad, yet ignorantly so; as they wholly relied on the efficacy of the objurgations, or exorcisms, of the "priest," or skilled man. In rheumatic affections, however, among other remedies, they often resorted to a rude hot vapour bath; and both in rheumatism, and in some obstinate cutaneous diseases, the tribes living near to hotsprings, and hot sulphureous mud wells, used them advantageously. But, while bad physicians, they were tolerably good surgeons,—especially in reducing dislocations, and setting broken bones,—as they knew well the economy of the human frame, from their too often cannibal feasts, as well as from their practice of cleaning the bones of the dead. They set broken bones admirably, using splints of *Totara* bark, or of the broad green bases of the large flax leaves; they also managed to cut off crushed fingers and toes, and even badly maimed hands, feet, and forearms, in a creditable manner, although wholly ignorant of the arterial system. Spearheads broken off within and perceived, they managed to cut out; but if not apparent, they repeatedly exorcised, to the double misery and expense of the sufferer. Recent wounds were generally left to themselves, and like their fractures, they mostly healed quickly and well; owing, no doubt, to their non-stimulating diet, temperate living, and low pulse. Old obstinate ulcers, (often arising from scrofula, or from some fragment of bone, or foreign substance remaining in the flesh, or from fungoid flesh,) they sometimes adroitly managed, by weaving a little wicker boss, [26] or shield, which they strapped on to protect the sore. They were also clever at boils, in courageously bearing the extraction of the core by pressure, only they did it too early. Painful excoriations of the hands, by poling or paddling, they eased by the actual cautery; burning the same with live embers. In midwifery cases, they were also very expert; in severe cases extracting the *fætus* piecemeal; when the husband was generally the operator. They were always extraordinarily solicitous about the retention of the afterbirth. In cases of children being poisoned by eating the seeds of the *Tupakihi* or *Tutu*, (*Coriaria ruscofolia*) they generally smoked them over a heap of green bushes, having a little fire underneath, shaking them about at the same time; sometimes they also ducked them roughly in the sea or river. In cases of poisoning through eating the unprepared kernels of the *Karaka* (*Corynocarpus laevigata*), they dug a deep pit as fast as possible, in which they placed the unhappy sufferer

standing, with his arms lashed to his sides, his legs tied together, and a gag in his mouth; filling in the earth, or sand, to his neck. If this treatment was well and expeditiously performed, the patient not only recovered, but had again the proper use of his limbs. The convulsions and rigidities, during the action of the poison, were dreadfully severe.

{Notes 14, 15}

22. They had several Acquired Habits, some of which were notably good, others peculiar. Their great industry has been already mentioned. They usually carried their heavy loads strapped on their backs, where they also carried their children. They were fond of sitting squatting on their haunches, both on land and in their canoes. They often used their toes to pick up any small article with. They endured their smoky houses without inconvenience; and always ate their food out of doors in all weathers. They saluted each other on meeting, by placing their noses in contact, rubbing and pressing them; in this way chiefs saluted chiefs, and slaves slaves. They often signified their assent to anything by a slight elevation of the head, or of the eyebrows. Silence was the understood sign of dissent. They measured length, especially cordage, etc., with expanded arms; or by stretching themselves on the ground, or surface, to be measured. Lice of two kinds, (*Pediculus hum. capititis*, and *P. hum. corporis*), with which their heads and clothing formerly abounded, they uniformly caught and cracked with their teeth. They had a peculiar gait, turning in their toes, and planting the sole flat on the ground, one foot closely before the other; hence they walked in very narrow pathways, yet they trod firmly, and stood strong on their legs.

23. Of *Drinks*, save water, no people had fewer; of really artificial ones none. In summer they everywhere drank the sweet and pleasant juice of the *Tutu*, sometimes mixed with gelatinous seaweeds, or a little prepared fern root, to give it consistency. Sometimes they mixed the fresh gathered watery honey of the flax flowers *Korari* (*Phormium*), with water; and sometimes the large roots of the cabbage-tree *Ti* (*Cordyline australis*), were slowly baked and bruised up in water, and yielded a sweetish drink.

24. Their *Masticatories* were few and scanty; yet most of what they had they prized. The resin of the *Tarata* (*Pittosporum eugenioides*), they gathered and mixed into a ball with the gum of the sow-thistle, which they chewed. A kind of Bitumen, which was sometimes found thrown up on their coasts, though rarely, and called by them "Kauritawhiti," [27] and "Mimiha," they also chewed. As they did the fresh resin of the Kauri tree (*Dammara Australis*). In using them, they passed them freely from one to another without hesitation.

25. Fond of Children, Pets, and Playthings, they endeavoured to domesticate a few animals. Foremost among them was their dog, which, for many reasons, must have been one of their great treasures; this animal they prized for his long tail-hair, his skin, and his flesh. In some places they dexterously managed to flay the outer skin of his living tail in narrow strips, so as to obtain the much coveted long white hair; which in time grew again! They also had a very ingenious mode of castrating them. This variety of dog has long become wholly extinct in New Zealand. Next to their dog, as being like him wholly at liberty, were the two large sea gulls, the *Karoro*, and the *Ngoiro* (*Larus sp.*) these, however, were of no real service; they would go to the sea and return again to the village. The large brown parrot, *Kaakaa* (*Nestor meridionalis*) and the Parson-bird *Tui*, or

*Koko (Prosthemadera Novae Seelandiae)* they also tamed; the former as a useful decoy-bird for catching his fellow-parrots; the latter, merely for his song, talking, and antics. They kept the *Tui* in a kind of rude cage, and taught him to repeat tolerably well a long song; while the poor parrot was always kept fast confined, tied by his leg to a cord with a running noose on a light perch or spear. They also sometimes kept the white crane, *Kotuku (Ardea flavirostris)*, in a miserable cage of basket work, much smaller than the bird required to stand upright in! where they scantily fed him with small fresh-water fish; this was done for the sake of its prized feathers, which were regularly plucked every four or six months. {Note 16}

26. Of Games and Diversions the New Zealanders had several; some of them were remarkably innocent. For children they had the whipping top, which, curiously enough, closely resembled the common English one; also, a game called *whai*, played with a string, much like the "cat's-cradle" of the English children; and another called *poi*, played with a large light ornamented ball attached to a short string. Young men often strove for the mastery in short spear exercises, and in projecting long dry fern stalks over a piece of level ground, or sandy beach; and in wrestling, running, leaping, hopping with or without a pole, climbing, swinging, paddling a small canoe, swimming and diving; in the three last-mentioned the girls also took part. They had also, for the young of both sexes, games of guessing; in one of which a pebble was hidden among a company;—of repeating long involved sentences without stay or hesitation;—of singing;—and of regular gesticulation by a company all sitting. They had various dances, some of which were mostly performed in their villages by the young women; while the rougher dances, accompanied with grimaces, and defiance, and brandishing of weapons, culminating in the hideous war-dance, were generally executed by the adult men. In dancing, however, with the sole exception of the war-dance, and also in swimming and other aquatic exercises, they were very much inferior to the other Polynesians. Old men often amused themselves with looking on and encouraging the younger ones, and especially with kite-flying, and in playing with the *poi*-ball. Their kites (*pakaukau*) were wholly different from European ones, and more resembling those of the Chinese. They were very ingeniously and neatly made with round and flat rushes, [29] and hovered very prettily in the air. They usually sang or chaunted a song to the kite while flying it.

## § II. PSYCHOLOGICAL

27. Their intellectual and moral Faculties, as a race, were of a high order; however stunted, warped, or debased they may have been through custom, habit, or their strong and unrestrained animal propensities.

(1.) They often showed acuteness of understanding and of comprehension, with great quickness of apprehension; consequently they were very apt to learn. Their subtlety was great, notwithstanding their openness and want of secrecy; so, also, was their ready power of mimicry, and imitation, and of low wit. Their memory was very good; and their ingenuity ever ready to follow closely any pattern; though certainly barren of originality and invention. They often exhibited great skill in finding out how best to do, or get, anything, (with their very limited means,) as well as ingenuity in performing or obtaining it; this they

exemplified in many ways:—as, in making their various axes, weapons, and ornaments of stone; in not only taking, preserving, and curing, fish and birds for food, but in making the highly poisonous vegetable substances, *karaka*, and *tawa* kernels subserve the same ends; in procuring fire by friction, and in making it to blaze, and in finding out the best tinder; in making their ingenious snares for hawks, ducks, rats, etc., and their various cleverly made fishhooks,—some artificially baited with mother-of-pearl shell for the *kahawai*, and others with a chip of *tawhai* (*Fagus*) wood for the Barracouta; in making their quartz-pointed wimble, and their "Spanish tourniquet," and their delicate tattooing instruments. They were passionately fond of music, but it was peculiarly their own: and of poetry, or of its chief ingredients, sentiment, and rhythm, although they had not rhyme. They greatly excelled in order and regularity, which they carried into almost everything they did; as shown in their parallel carving, regular in its wildness, and in tattooing the right and left faces and posteriors, with circles and scrolls almost mathematically exact; in their building and ornamenting of canoes and houses; in the laying out of their plantations, and particularly in the planting of their crops; in their measured paddling to "time and stroke," and, above all, in their war-dance! hence their practised eye always detected want of regularity in the stroke of the best manned man-o'-war's boat, as well as in the most precise military drill. They paid great attention to Nature, and profited largely and deservedly by the observance. They calculated their years by moons, and their moons by days, or rather by nights, (as, indeed, they reckoned all their time,) each having a distinct and appropriate name. The names of their moons were particularly appropriate, naturally reminding one of the French nomenclature of the months introduced at the institution of the Empire. They divided the year into two great annual seasons of summer and winter, which they subdivided into four great agricultural times, of preparation, planting, cessation, and harvest. Their year commenced with spring; to which, and to the proper planting season, they were guided by the rising of certain constellations, particularly of Pleiades and of Orion;—by the flowering of certain trees, especially a red-flowered creeper (*Metrosideros, sp.*,)—by the sprouting of ferns, principally of the *Rauaruhe* (*Pteris esculenta*)—by the mating, moulting and change of note of birds; by the singing of insects; and by the arrival of the migratory *Pipiwharauroa*, or little glossy cuckoo. In planting their precious *kumara*, they carefully turned its young sprout to the sun; which position they also chose for the entrances of their *kumara* stores, so as to avoid the cold south. They attended to the appearance of the clouds, and the redness of the heavens at sun-rise and sun-set—to the flight and noise of birds, and of insects—to the opening of flowers—to the apparent nearness of far-off hills—and the distinctness of distant sounds by night, for indications of coming wind and weather. They knew in what weather fish would bite, and what baits to use, and when certain fish were in season, and when crayfish were spawning and in their prime. If at sea, out of sight of land, or in a strange trackless country or forest, they shaped their course by the stars and by the sun. The diurnal ebbing and flowing of the tide they well knew, although they attributed it to the constant inhalation and exhalation of a certain monstrous being living in the sea in deep water, named Te Parata. They noticed the natural affinities of plants, hence the two Solanums (*S. aviculare*, and *S. nigrum*,) though widely differing in appearance, were both named *Poroporo*:—the two large pea-flowered plants,

(one a hardwooded tree, the yellow *Edwardsia grandiflora*, and the other an herbaceous shrub, the red *Clinanthus puniceus*), were respectively called *Kowhai*, and *Kowhai-ngutu-kaakaa* (*Kowhai*, and Parrot's-bill *Kowhai*); the black and the red birches (*Fagus fusca*, and *F. Solandri*), though greatly unlike in leafing, bark, etc., they appropriately knew as *Tawhai-rau-iti*, and *Tawhai-rau-nui* (large-leaved and small-leaved *Tawhai*); as also with the two species of olive (*Olea Cunninghamii*, and *O. montana*); with the two species of Flax (*Phormium*); and with several others. They not only well knew the difference between their common Fern-trees, giving them proper distinctive names; but another and scarce one, *Dicksonia antarctica*, they distinguished by the name of *Weki-ponga*, because it possesses characters in common with two of the commoner ones, severally called by them, *Weki* and *Ponga*. It is also evident, from their proper names and descriptive remarks, that, long before Linnaeus' age, they knew something of the sexes of plants; they had noticed, if there was little or no pollen discharged in the summer from the male catkins (*amentæ*) of the Taxaceous trees, (and which the writer has sometimes seen escape in clouds,) there would be no fruit that year for them, and their favorite pigeons would not be fat. And they were well acquainted with certain curious natural facts—such as the Cuckoo (*Chrysococcyx lucidus*) laying her eggs in the nest of the little *Riroriro* (*Mirotoitoi*);—the eel having two holes to its lurking place in the mud—the sea migration of the lamprey—and the various metamorphoses of insects.

{Note 17, 18}

(2.) That powerful moral faculty, Conscience, often showed itself strongly; so did its close attendant Shame—"that lurks behind;" although, from custom, the New Zealanders often exhibited much more shame at little failings and mistakes, than at great sins. They had a large share of fidelity and attachment; hence the slaves and lower classes were attached to their masters and lords; and hence, too, they frequently left their homes and tribes to live with and work for strangers, to whom [30] they had become attached; and their women generally made good and faithful wives to the early European settlers and whalers. Their filial attachment, however, was very slight. They were often very patient, and could exercise well, and for a long time, the virtues of endurance, especially if they had any object in view. They sometimes eminently showed their endurance in trying situations, by completely controlling their temper. They possessed a large amount of physical courage, as is abundantly shown in their desperate hand-to-hand encounters, and many hair-breadth adventures; but in moral courage they were very deficient, *e.g.* their fearing to speak to their superiors on unpleasant or unwelcome matters; their being afraid to go any where in the dark; and their mortal superstitious dread of harmless and pretty lizards.

28. Their Natural Propensities, both good and bad, were strong, and generally freely indulged. Unfortunately, their good ones, though striking, were but few in number, and were consequently often overcome by their more numerous bad ones.

(1.) Of their *good* ones, hospitality to visitors and travellers must ever stand foremost. The New Zealand host not only willingly shared what he had with his guests, but often freely gave them all, while he, his family, and his people looked on, quite pleased at seeing them eating. As it was with the coming, so it was with the going, guest, he was often loaded with food, etc., so that it was a difficult matter to carry it away,—and a heinous offence to refuse, or to

leave it. They were also very open and free in giving, one to another; and things were generally given without the least hesitation or appearance of regret. A constant cheerfulness of disposition and countenance, often amounting to gladness or hilarity, was also very prevalent, more especially among all the younger ones; hence, perhaps, their peculiar habit of surnames—commonly calling any unfortunate sufferer by his infirmity or deformity—as blind, lame, deaf, one-handed, hunchbacked, etc., etc., without giving or taking offence. Their love and attachment to children was very great; and that not merely to their own immediate offspring. They very commonly adopted children; indeed, no man having a large family was ever allowed to bring them all up himself—uncles, aunts, and cousins, claimed and took them, often whether the parents were willing or not. They certainly took every physical care of them; and, as they rarely chastised (for many reasons), of course, petted and spoiled them; sowing the seed of which they invariably reaped the bitter crop of disobedience. The father, or uncle, often carried or nursed his infant on his back for hours at a time, and might often be seen quietly at work with the little one there snugly ensconced. Perhaps in no race has the love of offspring been more fully developed, which by them was also often carried out to excess towards the young of brutes—especially of their dogs, and, afterwards, of cats and pigs introduced. Hence it was by no means an unusual sight to see a woman carrying her child at her back, and a pet dog, or pig, in her bosom. Another praiseworthy feature was, their being ever ready to help, and desirous of assisting to the utmost (whenever the *taboo* did not hinder them) anyone they could, whether visitor or neighbour, friend or relative; always, however, excepting their enemies. They were certainly not quarrelsome; nor were they thievish among themselves; excepting the slaves, who often stole from each other. [31] {Notes 19, 20}

They would, however, steal freely from strangers; at the same time things left in their charge by strangers were almost invariably safe. They were childishly inquisitive, but this they were with so much artlessness and good grace, and from a real desire for information, that it must be classed among their good qualities. Lastly, their being able to command sleep at any time—by day or by night, in health or in sickness—must not be omitted, for by being able to do so they doubtless escaped much misery, mental and physical.

(2.) Of their *bad* propensities, the following were among the more prominent:—Revenge, never weakening, never dying; ever assiduously cherished in their tenacious memories; sucked in with their mother's milk, and brooded over incessantly, with large accretions of interest and compound interest, and handed down as a precious legacy from father to son! Their combativeness, or love of fighting (especially after their fashion), was, no doubt, largely developed; it seems, as if it and its preparations, must have taken up fully half of their time: for once fairly roused, a New Zealander shuts his eyes to consequences. Akin to this was their cruelty and barbarity, and their love of teasing and tormenting—whether the poor and afflicted, the unfortunate recent captive, or the innocent dumb animal. Some of the barbarities sometimes practised by way of revenge on their newly taken prisoners of war, were horrifying, and quite equal those of the North American Indians, or the worse Christian (!) savages of the "Holy Inquisition." They were also hasty, passionate, and envious, and treacherous, especially to strangers, and in making war. But their constant suspicion of almost all others exceeded everything; no strange canoe could appear in sight, nor travelling party,

however small, be descried at a distance, but their worst suspicions were aroused, and immediately and by everyone evil was surmised. So it was of any track, or sign, of anyone unknown having lately travelled that way. Their instability and fickleness were also very great, and likely to occur at any time; often enough at an awkward time. Allied to which was their superserviceableness, or over-officiousness; their incessantly taking on themselves to do something new, or of little use, or not wanted; a *trait* best known by their own emphatic and peculiarly appropriate term, *pokanoa* (an undesired, causeless, or worthless, doing, or thing). Their disagreeable ever-asking for some *utu*—return, payment, recompense, or equivalent—for the least assistance or thing, (*quid pro quo*) is more a matter of growth during the last twenty-five years, at all events if latent it has wonderfully developed during that period: so, also, has their begging faculty; which, however, was well known to, and encouraged by their first visitors. From their childhood they were incessantly prone to practise all manner of deceit, (*maminga, hangareka, hianga*) from fun and joke, to imposition and fraud—at which they were great adepts, ever glorying in beguiling and terrifying. To this list must be added their superstition, or, better, perhaps, credulity—ever ready to believe anything strange, new, or wonderful; and their excessive ostentation and desire of being talked of;—which, though bad in the abstract, was, it is reasonably believed, the main cause why several (apparently) good actions were done by them; perhaps not a little of their old industry, and of their hospitality to strangers is rightly to be attributed to this characteristic [32] *trait*; as well (in some instances at least) of their more recent adopting the Christian religion, building chapels, etc.

29. Their common and biggest Vices, which have gained them such sad notoriety, were the luxuriant unpruned growths or fruits of their natural evil propensities. Their implacability and unmercifulness was but another phase of their never-dying revenge; from these came their cold-blooded murders, and cruel retaliating on the innocent, which was closely followed by cannibalism in all its horrors. Nothing more clearly shows the truth of the old adage, “the best corrupted is the very worst,”—than that a party of New Zealanders should be so carried away by the diabolical frenzy of the moment, as wholly to forget their strongly and highly characteristic natural feelings, and kill, roast and eat little children! In considering, however, their savage cannibalism, two things should never be forgotten—(1.) that they in practising it, broke no known law; and as they did not think it wrong, they never once thought of concealing it: and, (2.) that as they (their tribe) were doing today, they (their tribe) had been done by yesterday, and might be again tomorrow. Neither should it be altogether lost sight of, that commonly a bloody engagement—often the storming of a hill *pa*, or fort—could only take place when both sides were well nigh doubly desperate with starvation; and that after the fight was over there was really nothing to eat. There can be little doubt, but that at *such* times large bodies of men were often in a nearly similar situation, as to want of food, to distressed ship-wrecked mariners at sea; with this important addition, of having their worst passions dreadfully excited from the smarting of their own wounds, and the sight of their dead and dying friends and relatives around them. So much may, perhaps, be allowed for their cannibal feasts under such circumstances on the battle field; but those which often took place afterwards—although on a much smaller scale—cannot be so palliated. At the same time it should be remembered, that a race who ever thought so little of human life, as

commonly to commit suicide at the death of a husband, or favorite child, could not estimate highly the life of a slave. At home they rarely killed a slave, as they were too valuable, and they wished them to become attached to them, knowing too their dependence upon them; and if they did it was almost sure to be one who was incorrigibly bad, and had been already often warned and sentenced;—who, himself, perhaps, cared little for life; and who, in being killed, would be *mercifully*, instantly despatched (the greatest mercy the New Zealander ever knew). But their most cruel, murderous and cannibal atrocities were invariably perpetrated on the immediate return of the victors (mostly by water in their war canoes) to their homes. Then, on hearing from the heralds of their loss, the infuriated women who had remained at home,—widows, sisters, and daughters,—would frenziedly fly upon the trembling captives, demand them to be given up to them as *utu*, (payment, or satisfaction) and cruelly murder them in cold blood! and to add to their horrors, perhaps some of these,—wives or daughters of the vanquished,—might have been taken to wife by some of the victor chiefs during their long return voyage, and who themselves were now utterly unable to save them! Disobedience of children to parents, a common fault of their bringing up, with all its many kindred vices, was also very prominent; this mostly ended in a [33] total filial disregard! It seems strange that children generally, after puberty, should scarcely ever think of their parents who had always been so kind to them, although the parents still continued to show their great solicitude for their children. Lying too, of all kinds, was another highly characteristic vice; common every day, lying was never by them considered to be a sin. But the chiefs were too sadly given to calumniate one another with all kinds of fictions. No one ever believed all that anyone should say. It has often seemed (to the writer) as if a New Zealander could not possibly relate any matter truly. Their most public and solemn promises and asseverations,—even to the making of peace, or a truce, (after imposing and gaining their own terms) could always, without any shame, and without any pretext, be wholly scattered to the winds at pleasure! Their heartless and cold neglect of sick, infirm, and aged parents, relatives and friends, is another sad charge which is too true. Many a poor creature has slowly yet early died through sheer neglect. Fish, and birds, and pork, and fruit, and other good things, have often been in profusion in the village for the whole and hearty, of which the sick and infirm, though desirous, never tasted; and, knowing their own people too well, never once solicited. Sometimes, no doubt, such gross neglect was owing to superstition; and the miseries of the sufferers were perhaps lessened through knowing that such had ever been their custom. Of their common immorality much has been said; and very much has been laid to their charge, far more, it is reasonably believed, than is their just due. At all events the point of view must not be that of high artificial civilization, where everything natural is studiously concealed, and common matters, which may not be openly mentioned, are freely talked of secretly, the more copiously, perhaps, (in accordance with the well-known law of our nature) from the fact of restraint being laid upon them. With the New Zealander all was open and unconcealed from his birth; so that a host of common things of every day occurrence—any one of which to a highly civilized European might be a cause of distress and unpleasantness,—or, to another, of evil thoughts and desires,—was not so to him. Many such sights, sayings, and doings, were to the New Zealander as if they were not; simply from being always used to them. It was just that kind

of difference which exists between the aged grave-digger in the old churchyard,—the old professor in the dissecting room,—the phrenological philosopher in his study,—and the highly civilized but uninitiated gentleman. New Zealand men often went naked, without any breach of modesty, or decorum; but a New Zealand woman never did so. Keeping in mind the “well-known law” above alluded to, and remembering that the New Zealander kept no secrets—with him everything was known; there is good reason for believing, that their immorality was really less through the promiscuous dwelling and sleeping together of the sexes (in one house), than if they had been made to dwell and sleep separately. Adult brothers and sisters slept together, (as they had always done from their birth) not only without sin, but without thought of it. Incest (and other high crimes) was scarcely known, even by name; nor was it likely to be, by a race, among whom the marriage of first-cousins has always (and justly) been viewed with great disgust, as “weakening the shoot.” Whatever the New Zealand girl might be before marriage, after [34] marriage she was faithful; and even before marriage, the betrothal, when made, supported by the *tapu*, in the majority of cases, kept her from going astray. Adultery, on the part of the wives, (generally punished with death) was by no means common among the same sub-tribe or village. In fact, such could not be among the suspicious, revengeful New Zealanders. A chief going anywhere confidently left his wife, or wives, behind, in his brother’s or relative’s charge; generally speaking, such a thought as their faithlessness during his absence never entered his head. Of course, the writer, in thus giving his firm belief as to the immorality of the New Zealanders, wishes to be understood, as speaking of it as practised by a race among themselves. The grosser and more frequent immoralities, which have been caused by the arrival of the “superior” man among them, is no more to be charged, as a vice, to their account as a race, than is that of their selling an estate for a musket, or a jew’s harp, or a large pig, for a stick of tobacco. There is still one more glaring vice of theirs to be noticed, namely, ingratitude. This, it must be confessed, did everywhere exist, and that to an extent almost unheard of elsewhere. To a New Zealander gratitude was wholly unknown. They have no word for it in their language; no way of expressing such a feeling, which never existed in their breast. To a deeply reflecting mind, this sad fact may appear to be a far worse one than their cannibalism. There can be little doubt but that their total want of this high feeling of the soul, arose from their own peculiar natural condition; particularly from the fact, that no New Zealander ever did any kindness, or gave anything, to another, without mainly having an eye to himself in the transaction; and this was known and reciprocated. Of all their characteristic vices, this of ingratitude appears to be one of the worst. Our immortal bard might well truthfully and feelingly say:—

“Freeze, freeze, thou bitter sky;  
Thou dost not bite so nigh  
As benefits forgot;  
Though thou the waters warp,  
The sting is not so sharp  
As friends remember’d not.” {Notes 21, 22, 23}

30. From what is gloomy and repulsive in their character, let us now turn to what is pleasing, and what perhaps, by some, has been hastily set down as wanting—their love of *Æsthetics*—or the beautiful. This, it is believed, will be clearly seen, if we keep hold of the fine clue, and pursue it steadily through all its entanglements and ramifications to the end. They generally sought a clear open site for their villages, so as to command a good view; a fine open

prospect from a village being loudly praised by strangers, while a cramped or bad one was denounced. They did all they could to keep their villages both clean and tidy. Each village had its common privy—generally in some secluded spot. Their houses were often neatly kept, all their little articles hung up or stowed away in baskets in their proper places. Their fishing residences, and huts near their cultivations, and forest huts where they sometimes dwelt, (for a chief had generally 5 or 6 residences) were usually beautifully placed and snugly ensconced under shady trees, and by the side of a murmuring brook: they rarely ever wantonly cut [35] down evergreen shrubs or old shady trees growing near them, for the sake of their wood for timber or firing;—choosing rather to fetch the same from a long distance. They liked to hear the birds warbling; and they often planted the red parrot’s-bill acacia (*Kowhai-ngutu-kaaka*), and the ornamental variety of striped leaved flax, about their houses, on account of their beauty. They sought largely after the beautiful in their making of clothing mats,—as is seen, in their handsome coloured borders; in their many ornamental strings and tassels of various dyes: in their cutting up their dogskins into narrow strips and then sewing them together, so as to have the greater effect from shade and colour; and in the peculiar bias seams skilfully introduced in their weaving, in order to make the mat fall in graceful folds over the shoulders. Even their back-straps for carrying their common loads, they sometimes plaited of scraped flax fibre dyed of two or three colours. It was the love of the beautiful, also, which led them to seek after and use other fibrous substances only obtained with much more labour,—flax being everywhere so plentiful. Hence, too, their love of neat, pretty, elegant, contrast ornaments; of graceful drooping feathers, as of the White Crane, or bunches of snowy down from the Gannet and Albatross, of the small feathered skins of the *Huia*, the *Tui*, and the little glossy Cuckoo; of their female head dresses made of the snowy down-like epidermis from the leaves of the *Astelia* and *Celmisia* plants,—the graceful small-leaved *Clematis*, and the elegant climbing *Lycopodium*; and, of the white fillets from the Paper-mulberry tree for the dark raven locks of the men. Hence too their scented necklaces of the odorous grass *Karetu*, of the *Roniu* flowers, and of the *Piripiri* moss; enclosed within the neat spotted feathers of the Paradise Duck. Hence their prizing the scented gums of the *Tarata*, and of the *Taramea* plants, as perfumes; the latter, an Alpine plant, only collected with much labour and danger. It was owing to their love of the beautiful that they so tastefully decorated their canoes with plumes of feathers, and with elegant long flowing pennants of feathery tufts, which so loudly elicited the praises of Cook and the early navigators. Through this love of the beautiful, they were led to chequer and make regular dark spirals on their yellow reeds for lining their chiefs’ houses, which was done by winding slips of green flax at regular distances around them and passing them through the fire. It was owing to this that they carved so much, and so regularly, even down to their canoe-balers and paddles, and the wooden necks of their large calabashes. Hence, too, in all their good carvings, however quaint, “the true line of beauty, the curve,” is found, which they skillfully managed to produce, without drawn plans, copy, or pair of compasses. {Note 24}

31. The educated New Zealander possessed many Acquirements. In him, sound and practical knowledge of the *utile* and *dulce*—the useful and the ornamental—were very often to be found combined. It was not with them as with us,—one man knowing one trade or occupation, and another, another; with them, generally, one clever man

knew all things, while every one, at least, knew several useful and practical ones. Invariably, in whatever they sought to learn, they strove to excel, hence they generally succeeded. They uniformly counted very well and without difficulty up to a hundred, and some among them could go further; their term *mano*, however, now used for a 1000, scarcely definitely [36] meant that number. Besides their common counting by units, they had another mode of counting by pairs, which principally obtained for baskets of sweet potatoes, and fish, and a few other articles. The many and varied acquirements of the different parts and kinds of house building; of making their many different canoes; and of all kinds of wooden and stone implements for use and defence; of cultivating successfully the soil; of making several kinds of very ingenious traps for catching animals; of bird, and rat snaring; and of sea, river, and swamp fishing, in all its various branches;—of carving, tattooing, weaving, spinning, and plaiting; and of making sails and nets of many kinds; of skill in paddling, steering, and navigating a canoe; of swimming, climbing, and parrying spear thrusts; of music, singing, and dancing; of surgery and oratory; of genealogies and relationships; of old feuds, and their causes, and their unsettled scores; of boundaries, and of roads and tracks to distant places; not to mention all the needful acquirements respecting the *tapu*, traditions, songs, chaunts, exorcisms, and very many customs. In bygone years, the writer has not unfrequently looked with quiet admiration at such an individual, diligently and unassumedly working at his many varied occupations; often when tired at one, dropping it and taking up another; and in doing so he has thought,—what an example such-an-one was of the successful pursuit of knowledge under difficulties: How truly *he* deserved to be called a “*tohunga*” (a living cyclopædia, or skilled man)! At such times the exquisite, and not inapplicable, lines of Hurdis, (learnt in childhood) would rush into the mind and may not be wholly out of place here:—

“But most of all it wins my admiration,  
To view the structure of this little work.—  
———Mark it well, within, without,  
No tool had he that wrought, no knife to cut,  
No nail to fix, no bodkin to insert,  
No glue to join; [his hand alone] was all  
And yet how neatly finished:—  
———Fondly then  
We boast of excellence, whose noblest skill  
Instinctive genius foils.”

32. It is evident they possessed the germs of knowledge of the first principles of Mechanics; but it appeared more like a decaying remnant of ancient wisdom, or a growth nipped in its bud, than a new, or recent development. They seem scarcely ever to have improved the one original idea. The powers of the inclined plane they knew and used in the wedge, and in moving heavy weights up a prepared slope. In using the lever, they well knew the difference between a high or low, near or far-off fulcrum. The wheel and axle, rude as it was, they had in their quartz-pointed drill or wimble. The screw, in the “Spanish tourniquet,” for expressing of oil, etc. And the pulley, in rollers for their canoes, and for hoisting up heavy weights to their high stages for great feasts; which rollers they often smoothed and wetted, or covered with wet seaweed, to make the body to be moved the better to glide.

33. It is said, that the New Zealander’s perception of Colours was defective and weak—because he had proper names for only three colours, and none for blue, green, brown, violet, etc.; this, however, is (in the [37] opinion of

the writer) a mistake. Their colours, it is true, were mainly divided into three distinctive classes—*ma*, *pango*, and *whero*, (white, black, and red,—or, light, dark, and reddish)—but they were never at a loss with these three words clearly to express all colours. They used them, much as an English mariner uses the four names of the principal winds and points of the compass, repeated and involved to make 32, only much more expressively; as they also used with them several adjectives, increasing or lessening their meaning; also the words themselves reduplicated as diminutives. Besides which, if a New Zealander wished to convey to another a very exact idea of any colour intended, he would mention that of some natural object which was of the same shade of colour;—for greens, the *karaka* leaf, or the blue-green of the sea, or the light-green of the young grass or the yellow glancing green of the plumage of the little parroquet;—for blues, the differing blues of the day, and of the night sky, or of the *pukepoto* mineral, or of the neck of the red-billed swamp bird *Pukura*, (*Porphyrio melanotus*) etc., etc.

34. Their courtesy and etiquette deserve notice; particularly from the sad fact of such having become nearly extinct, and that mainly through their intercourse with foreigners! In visiting, the visitors when near the village, sounded their conch shell, or wooden trumpet, (in later times fired a musket) or sent on some one known to the people to inform them of their approach, lest they should be taken unawares—a thing very much disliked by all New Zealanders. If they were loudly invited, they went straight on, without speaking, into the village, unless the company was straggling, when they waited for those behind. If they were not so invited, (through the people of the village being absent in their neighboring cultivations) they quietly waited in a body outside until they were. On entering, they were led to some large house, or spot, strewed with clean mats, or fresh fern, or leafy branches. There they quietly sat until food was prepared and brought them. After having eaten they were welcomed by the chief, or chiefs, in speeches and songs, and individually saluted, when conversation began. No enquiries were ever made as to the purport of their visit, till after they had been refreshed. Great respect was shown to known rank; to such, the best seat in the canoe, and in the house (which was always on the window side), was constantly given. A proper respectful mode of address, was always used to chiefs. Bad, and unexpected startling tidings, were generally couched in other words, or delicately alluded to, in a song or saying of well-known meaning. In conversation, euphonious words and euphonisms were often chosen; and care was taken to make no allusions to past disagreeable matters. They took great heed not wantonly to hurt any one’s feelings; and if any such were attempted, it was immediately repressed. Such a person was spoken of as having had no parents, or, as having been born (laid) by a bird, (a term repeatedly used by the New Zealanders concerning many English “gentlemen,” owing to their rude behaviour!) Things which might remind the visitors of past sorrows and troubles were also carefully put out of sight. The people of the place were mindful not to use any bad or intemperate language towards, or in the hearing of, their visitors. No foolish tricks were offered in jest. They were very careful not to step over, or to hand food over, any of them. If they wished to pass through, or by them, and there was little or no room, they did [38] not shove, but civilly said, “*Tukua a hau*,”—allow me to pass. They brought their visitors fire, food, and water, always of the best they had; and if they were of high rank, such was in part carried to them by the chiefs of the place; and often, if they had any

reserved prized delicacy, they also brought it. Sometimes, when their visitors were very few, and arrived just as the evening meal was cooked, they sent them the best of it—the chief sometimes culling with his own hands. In laying down anything before their visitors, they always retired nimbly, lest they should hear their own praises, or be supposed to be desirous of hearing them. They avoided openly staring, or laughing at the newly-arrived; or making impertinent remarks upon their appearance, manner, clothing, etc., and quickly removed all offensive things dropped near by animals; and carefully covered up all sores, or deformities, of their own. The chief of the village often gave up his own house to his visitors, and sat outside the door in the sun, rain, and wind, conversing with them, until they had repeatedly invited him in. If the party was small, and house accommodation scanty, the chief of the village and his people occupied the inferior side of the house, leaving all the other and best side to the visitors. They were careful not to ask anyone his name, particularly a stranger. They were always exceedingly circumspect not to cause offence by a look, word, or gesture. They rarely enquired after any one's health by name, and took good care not to enquire specially after any female. They also abstained from finding fault with any of the words or doings of their visitors, even when they might justly have done so. From courtesy alone they generally assented to what was said by a visitor, and always to anything said by a person of rank; at the same time quietly holding to their own opinions. (This *trait* in their character has been the means of deceiving many Europeans, and not a few of those in high authority.) While their visitors slept by day, they were attentive not to disturb them. If any one happened to be among the party who was an enemy, or had done wrong to any one of the village, and had not yet made reparation, they quietly overlooked it for the sake of the head of the party; at the same time they abstained from giving him individually anything, or welcoming him particularly. They always saluted on meeting in the way, and if the one party was carrying anything edible, they dropped their loads, unlaced their baskets, and freely gave the other a portion; if both were, they gave to each other. They sometimes sat down to receive, and to give messages, and to receive salutations, as a sign of inferiority. On their visitors leaving, they were loaded with food, and freely supplied with all little accommodations of baskets, straps, etc., with many attentions; the chief usually went with them a short distance to point out the way, and sometimes accompanied them to the next village. If he did so, although related to the people of the village, he entered and remained with the visitors, and was treated as one of them. In war, women who were related to both sides, the besiegers and besieged, were allowed to pass and repass continually, and often were the cause of much mischief. Sometimes, when a besieging party knew of their enemies wanting food, or stones, or spears, they sent them a supply, laying them down in heaps near their defences, and then retiring, but such chivalrous (?) conduct was rare. [39]

35. Like some of the nations of the old world, they believed the seat of their Sentiments and Feelings to be in the stomach and bowels (*ngakau*).

(1.) Many of their Sentiments, respecting plain practical matters of every day life, were eminently sagacious and just; yet here there was a great difference in those concerning things with which they were conversant, and those which were new; also between objective and subjective matters. Again, other of their sentiments,

including most of those concerning sickness, death, the cause of common natural phenomena, and of everything pertaining to the *tapu*, sorcery, and the state hereafter, were excessively puerile. They loudly expressed their approbation and disapprobation; and were often not a little biased in giving judgment by considerations of relationship and of tribe. Having espoused a cause or party, they generally pertinaciously adhered; and though shown their error, would rarely allow themselves to be in the wrong. They judged of others by their looks, especially by their eyes and cheeks, and by their manner and tone of voice; and if they thought them to be angry, etc., they often very plainly told them of it; or politely asked them if they were not so.

(2.) Their Feelings were very strong, often easily excited, and rarely ever concealed. In showing them the New Zealander was very changeable—now in a towering passion, or bitterly weeping at a single slight word, or a look; anon, quite stoical and not to be stirred. At times their feelings were soon controlled; at others with extreme difficulty suppressed. Consequently, with them it was ever an easy matter “to rejoice with those who rejoice, and to weep with those who weep.” Their keen uncontrolled feelings often led them to beat, kick, and strike inanimate objects—sometimes to their own greater hurt; and commonly to gnaw and bite, on extraction, a splinter or thorn which had pierced them, and which was often carefully preserved to be burnt in fire! An object of pity and suffering often excited feelings of disgust. Hate, and desire of revenge, were fearfully exhibited at seeing or hearing anything of their enemies. Superstitious dread was universally shown at going anywhere in the dark, or at approaching where anyone had died, or was buried; and most particularly at all kinds of lizards, living or dead, although harmless—as such ever reminded them of a malignant demon, or *Atua*. Their sense of loneliness or desertion was often expressed in mournful songs; while that of wounded pride was borne with extreme difficulty. Ridicule, invariably freely given, was most keenly felt; so was shame; while the salutary conviction of having wronged or injured any one, even when done under a mistake, was generally followed with ample restitution. Sometimes their feelings have been so intense at being rebuked before others, though perhaps very slightly (as by a husband, for negligence in cooking, or for want of care towards a child at that one time, or for breaking a calabash, or a pipe, or some other small thing), that they have run away into the woods, or attempted suicide. But it was mainly at the death of the loved one—husband, child, or brother—that the feelings of anguish of the bereaved were utterly uncontrollable, and not seldom ending in self-murder, while others have gone down, pining and lamenting, to the grave. Some fathers cut off their hair close on one side of the head for the death of a child, and never [40] allowed the hair on the other side to be cut or touched; hence it grew very long, and became completely matted together, while over it they would often sigh and weep. A chief often changed his name at the death of a beloved son or daughter, relative or friend; and took for a new name that of something last said, or even eaten by the departed; or something strongly reminding of the sad event. Sometimes, too, tribes and sub-tribes altered their names, generally in order to bear some loss, or insult, in mind. Most New Zealanders would destroy or remove every article which had pertained to, or had been touched by, the departed loved one, sometimes burying them with him: a few, however, would keep some little thing, but always away out of sight,

to be now and then produced and wept over. A chief's greenstone battle-axe, and breast and ear ornaments, though frequently buried with him, were always recovered for future use. Many forsook the place where the loved departed had died; while others left their homes and wandered about unsettled for a long time, seeking to forget their grief. {Note 26}

36. Their mysterious and intricate institution of the *Tapu* (taboo) with all its many forms, rites, observances, and customs, was, on the whole, beneficial to the New Zealanders. However irregular, capricious, and burdensome it may now appear (to us) to have been, it was certainly the source of order to them; and was of great use to conserve them as a race, and to sharpen their intellectual and moral faculties. Having no written language, it is not at all unlikely but that the observances of the *tapu* institution were much more simple and charitable at the first; seeing, too, that its observances and modes of working varied in different districts and under oral directions. Very likely the more the tribes, sub-tribes, and "priests" increased, the more varied became the taboo. How greatly would the Mosaic code of laws have been changed or added to, had they not been written! As it was (2000 years ago) the Jews were charged with having "made the word of God of no effect through their traditions;" and how much have some of the early Christian churches departed from what was written, through non-attention to that writing, and that continual inseparable desire of the human breast to be always adding something new! A good sized book might be written about all the numerous requirements of the *tapu* system. They commenced with the birth of the New Zealander, continued with him throughout life in all its varied scenes, and did not leave him until long after he was in the grave. The *tapu* regulated, or pretended to regulate, all his movements. It certainly enabled him to accomplish many heavy and useful works, which without it he could not have done. Through it, their large cultivations, their fisheries, their fine villages and hill forts, their fine canoes, their good houses, their large seine nets, their bold carvings, and a hundred other things were accomplished—without possessing either iron or metal! Through it, their fowl, and fish, and forests were preserved. Through it, the crimes of murder, theft, sorcery, and adultery were less common, and when committed sure not to go long unpunished; and through it, fornication and other errors were lessened, and the headstrong passions of the New Zealander were in a great measure controlled. It had great influence over them: the stoutest and fiercest of the New Zealand chiefs bowed like an infant before it, and dared not disobey its behests. In all their changes, they held it to the last, and only [41] relinquished it by slow degrees; [have they done so yet?] Notwithstanding they certainly never liked it. No man, or body of men, has ever yet liked a coercive law, however beneficial. If through it, (or rather, perhaps, owing to its being broken or neglected,) much blood was shed, many lives were also through it saved. Several of its requirements were certainly very peculiar and abnormal, and bear the appearance, at least, of being very cruel;—e. g., at the death of a chief, a *tauua*, or stripping party, came and stripped the family of all eatables and other movables, digging up root crops, and seizing and spearing tame pigs, and devouring and carrying them off; and if by any chance the family were not so stripped; they would be sure deeply to resent the neglect; as much on account of their being lowered (*i.e.*, not taken notice of), as for the violation of the *tapu*, in failing to carry it out. Again: in case of any infringement of the *tapu*, or of any error or wrong, real or supposed, the *tauua* would be sure to pay its visit;

such *tauua* was not unfrequently a friendly one!—one quickly made up of the nearest relatives and neighbours to the offender; for, as he must be stripped and mulcted, they might as well do it as others, and so keep his goods from wholly going to strangers. If a road was tabooed, and anyone was foolish or hardy enough to go over it, the *tauua* would be sure to inflict a very heavy penalty. On the completion of a large seine net, it was brought on a set day to some beach "to be first wetted," when not only that beach, but the neighbouring ones, and also the whole sea in front, would be rigidly tabooed; on such an occasion, should any unfortunate canoe, however unwittingly, trespass on the prohibited waters, it, and all its contents, would be immediately confiscated; and loss of life might very probably take place in the *melee*. Their strange custom, also, which obtained in the upsetting of friendly canoes, or their drifting on to their shores, has been already mentioned (par. 20, sec. vi.); also, that respecting a chief who had been made captive (par. 19, sec. ii.) Several others, equally unreasonable, might also be adduced. As there was not a family or individual among them who was exempt from the influence and operation of the *tapu*; and as there was no such thing known as a standing, or selected, party to act as a *tauua*; so, those who suffered through it today, were enabled to retaliate (with true New Zealand zest) upon those who might be sufferers tomorrow; especially if they had been engaged in paying them a visit yesterday. And this, no doubt, always had a tendency both to equalize the inflictions, and temper the operations of the *tauua*.

37. Their credulity was very great, and sometimes accompanied with a large amount of superstitious dread, which cannot well be defined. They believed in the truth of Dreams, of which they had many kinds both good and bad. To dream of a nice house was indicative of great good; of wounds, or of death, or of eating bad food, indicated great evil, perhaps death. All were alike firmly believed to be remembrances of what they had seen in the *reinga*, or unseen world, (or place of the departed,) whither the spirit (*Wairua*) was supposed to have been during the sleep of the body. They also put great faith in convulsive startings in sleep, especially of their chiefs—whether such were directed to the right, or to the left—from, or to; a start forward, or outward, was a prognostic of good; in the contrary direction, of evil. Their omens were many; among them were the catching, or tripping, of the toe or [42] foot, on beginning a journey; which would sometimes cause them to return. An ember bouncing from the fire towards anyone; a singing noise, or gaseous flame, issuing from firewood burning; sneezing; various persons, or peculiar things, first met on leaving the house, etc., etc., were all ominous. An *aitua*, or evil prognostic—casually arising by some chance thing or accident, done by, or to, another, was also believed in. Ghosts, too, were commonly believed, and greatly dreaded; but this haunting spirit, or phantom, (*Kehua*), which haunted its former place of residence, when in the body, and also the repositories of the dead, differed widely from the sensible intellectual spirit (*Wairua*), which had departed to the *reinga*, and which was not feared. The former were as *lemures* and *larvae*; the latter as *manes* or *spiritus*. There were also nocturnal visitations (*taepo*); voices from the dead; demon spectres speaking in the whistling winds, especially in an old hut; and, above all, the last words (*poroaki*) of the dying, to which they paid great attention; and when spoken at random, in great weakness, wandering, or delirium, were often productive of much mischief. They had also their Soothsayers and Augurs, who gave predictions of lucky and unlucky days for fighting,

voyaging, etc., and which they often ascertained by a kind of *sortes*, or lot. Many of the "priests" were great physiognomists, and read the features closely, that they might know what such a slave would become; they also believed in something akin to the "evil eye" of the East. Some tribes disliked the owl, and the lonely little swamp bird *Maata* (*Sphenoeacus punctatus*); and yet they both persecuted and killed them. All lizards were more or less dreaded by every New Zealander: this is a curious feature, and worthy of deep investigation. It was their only living representation for the *Atua* (or malignant demon), which, according to their belief, was gnawing their vitals in sickness, and especially in consumption; while, however, stout men and warriors would often fly from a lizard, they would also return and kill it. Shooting stars, meteors, and phosphorescent fires in woods and marshes, they considered portentous; but thunder, lightning, severe storms, volcanic eruptions, and earthquakes, they laughed at. The nearness of the moon to a star or planet, was also considered very ominous. They had many trivial ceremonies in travelling and voyaging:—as in crossing the culminating peak of a range, or by certain solitary stones (named), or by any famed cliff or cavern, or upon entering on dreary plains, or on crossing a spot termed by them the back-bone of the North Island; at such places they all singly performed a slight simple ceremony in passing; gathering a small branch, they cast it on, or towards, the object, using a few words by way of salutation, or custom, or charm, which words varied in different parts, and by different tribes. So at sea, on being about to pass over a bar, or to enter a narrow tidal passage, or to pass round a cape or headland; there they would halt a moment, and the "priest," or chief, would mutter a few words of chaunt, or charm, and then proceed. To the writer it has ever been most animating—at such a time, with danger rioting around, to see, the old grey-haired man arise in his puny little vessel, and in a few simple words, command the heavy breakers and the demon-guardian of the pass, to listen to his powerful charms! All such (in his opinion) is a picture of Man struggling for his true position in Nature; as lord and master of her powers and gifts:—although [43] alas! as yet he has them not. The brief ceremony over, the inspired crew paddle away heartily, nothing doubting. Their credulity as to Sorcery and Necromancy, in all their branches, causing sickness and death, was universal and very great. Hence hair, saliva, etc., of chiefs, were carefully buried, lest such should get into the Sorcerer's hands. The heads of the chiefs were always tabooed (*tapu*), hence they could not pass, or sit, under food hung up; or carry food as others, on their backs; neither would they eat a meal in a house, nor touch a calabash of water in drinking. No one could touch their head, nor, indeed, commonly speak of it, or allude to it; to do so offensively was one of their heaviest curses, and grossest insults, only to be wiped out with blood. All fruits, vegetables, etc., which grew at a prohibited spot (*wahi tapu*), were not to be eaten or gathered. A tabooed child was not on any account to be washed; and common cooking fire was not to be used for warming a house, or a company in the open air, nor lighting a pipe; lest the taboo should be broken, and penalties, sickness, and death ensue. {Note 27}

38. Religion—according to both the true and popular meaning of the word—they had none. Whether religion be defined to be,—virtue, as founded upon the reverence of God, and expectation of future rewards and punishments; or any system of divine faith and worship,—they knew nothing of the kind. They had neither doctrine nor dogma; neither *cultus*, nor system of worship. They knew not of any Being

who could properly be called God. They had no idols. They revered not the sun, or moon, or glittering heavenly host, or any natural phenomena. Rather, when they chose, they derided them. The three principal beings, or rather personifications,—*Tu*, *Whiro*, and *Tawhirimatea*,—(all alike malignant, and ever hated by the New Zealander, as the sole cause to them, of pain, misery, and death—in war, in peace, and in voyaging,) were certainly never loved, or revered, or worshipped. The New Zealander knew better than to worship them. Sometimes in some of their *karakia* (recitals), the name of one or other of these imaginary beings would be mentioned, but it was done more by way of exorcism—to order him off—to bind him down—or to abuse him. They never once thought of getting any aid or good from them; they rather hoped (through their "priests") to overcome them, or their malignancy, by the power of their muttered *karakia* (recitations) acting like charms. Moreover, in their own traditions and legends, they are sometimes represented as being ancestors of, or related to, their own (mythical) progenitors.

With the New Zealanders the observances of the *Tapu* were in place of religion. Hence it was that the *tapu* was so rigidly upheld and enforced. Nothing could set it aside, or alleviate it; all were equally obnoxious to it. Hence, too, we may see, why they increased the misery of the miserable, and made the wretched sufferer still more wretched. If a man died at home in peace, it was owing to the anger of the demon *Whiro*, (and very likely, as stated by the "priests," in seven cases out of ten, to have been inflicted on account of some infringement of the *tapu*), consequently the family were to be also pillaged and peeled, to end, if possible, the visitation, by still further.

— "placating the dread Atargatis." [44]

If a canoe was upset; such of course, could only be caused by the anger of the watery ruler, the New Zealand Neptune, *Tawhirimatea*; (perhaps, too, for some secret infringement of the *tapu*.) when the result must be the same, on the part of those on shore—siding, for the time, with the stern Nemesis. So, in the case of death, or captivity in war, the malignant demon, *Tu*, who there presided, had definitively sentenced, as seen, (doubtless for some violation of the *tapu*.) and it only remained for the living—the captive and his relations—to ratify by silently acquiescing. Even their savage cannibalism at such times may owe much of its origin to their belief in this. Again, in the case of the new seine, (par. 36,) which is rigidly tabooed until the first fish taken are tabooed and set free—their legends of Maui and his fishing up the North Island of New Zealand state, that the present broken and abrupt face of the country is entirely owing to the brothers of Maui rushing to cut up the huge fish he had caught without having made the tabooed offerings of the first fish. Consequently, it came to pass, that under the *tapu* they were secularists, never once thinking or caring about an hereafter. Not that they disbelieved in an after state for man; but (1) that it was not a state to be desired; and (2) that it would follow as a matter of course, not being dependent or contingent on anything done on earth—unless it were, on the one hand, in being a strenuous supporter of the "priests" and of the *tapu*; and, on the other, of dying a slave. {Notes 28, 29}

39. Death, with the New Zealander, was the passage to the *Reinga* (*hades*), the unseen world containing his departed people. No one, however, unless some suicides in a fit of insanity, ever willingly went there. Even the disembodied went on unwillingly, casting lingering longing looks behind.

Occasionally (according to the natives) a few of such returned from the very verge to the bodies and the world they had left; such truly recovered from the gates of death! In the *Reinga*, the departed live without labour and trouble. They feed on *kumara* (sweet potatoes.) Messages were often given to the dying person to take to deceased relatives there. All funeral wails and chaunts over the recent dead ended with—"Go, go, away to thy people." It is a curious fact, that by the Fijians, Tahitians, Tongans, and Samoans, as well as by the New Zealanders, the place of departure of the spirits to the unseen world is uniformly fixed at the western extremity of the island. {Note 30}

### § III. PHILOLOGICAL.

40. The New Zealand tongue is a distinct dialect of the great Polynesian language; spoken more or less throughout most of the numerous isles in the Pacific Ocean lying east of the longitude of New Zealand. It consists of fifteen letters—five vowels and ten consonants; of the latter, two may be called double, though having each but one sound. No two consonants can possibly come together, and every syllable and every word ends with a vowel. The New Zealand dialect has ten principal subdivisions, which cannot however, with propriety, be termed subdialects, viz.:—(1) Rarawa, or Northern; (2) Ngapuhi, or Bay of Islands; (3) Waikato; (4) Roturua and Taupo; (5) Bay of Plenty; (6) East Cape and Poverty Bay; (7) Hawke's Bay to the Straits; (8) Ngatiawa, or Wellington to Taranaki; (9) The Middle Island; and (10) [45] Chatham Islands. In all these subdivisions the grammatical structure is the same, with very slight variations; the principal differences being found in words and idioms. There are, however, three exceptions as to the change or dropping of a consonant:—(1.) The Bay of Plenty, where *n* is used for *ng*; (2.) The Ngatiawa tribes, from Wellington to Taranaki, who alone, of the New Zealanders, have a very peculiar mode of expressing the *h* by a kind of guttural click, or half expressed hiatus, or semi-stop; and (3.) The Ngaitahu in the Middle Island, who use *k* for *ng*. It is highly worthy of notice, that all these differences are also found in the dialects of the various island groupes, though not as in New Zealand—all in the one dialect of one island, or group.

41. Its Grammar is peculiar, as compared with those of western languages; having neither declension of nouns by inflection, nor conjugation of verbs as there obtains; all such being clearly done by simple particles affixed or suffixed. Its singular is changed into the plural number by prefixing a syllable. There is no auxiliary verb "to be;" but the particle *ano* often supplies its place. Every verb has a causative, as well as active and passive meanings. Intensives, superlatives, and diminutives abound. It has double dual pronouns, and also a double plural; both of which may be termed inclusive and exclusive; allowing of great grammatical precision in speaking. It has several articles, singular and plural, and is rich in prepositions, adverbs, conjunctions and particles; each bearing delicately different shades of meaning. The New Zealanders all speak grammatically from their infancy, and never make any mistake in pronunciation. The same may also be said of the writing of the most untaught among them; with the exception of their elision of terminal and initial vowels, and their division of words. These, however, arise from their close adherence to their quick pronunciation.

42. The Language is remarkable for its euphony, simplicity, brevity, clearness, and copiousness. For its euphony, it is not only indebted to its not having two or more consonants coming together, and no word ever ending with a consonant, but to the copious use of the vowel *i*, (pronounced *ee*,) to the sound of its semi-liquid *r* (approaching *l*,) and to several vowels often closely following, together with a quick flowing elision of others. Its simplicity arises from one word, or root, being noun, verbal noun, adjective, or verb; requiring merely the addition of a simple short particle; and from the peculiarity of its idiom. It knows of no circumlocution. All long, involved parenthetical sentences, are utterly foreign to it. Its brevity is often quite laconic; and while exceedingly terse, contains great beauty and power of expression. It is very clear and exact, as shown by its many singular and plural articles, and double dual, and double plural pronouns; its various modes of address, according to age, sex, and rank; and its many intensive and diminutive particles. While its copiousness may be readily inferred, from its having proper names for every natural thing however small—different names for a tree and its fruit, and for every part of a vegetable whether above or below ground, and for young and adult fish of the same species—for everything made by them, and for each of all its various parts—for every kind of tattooing, and each line and marking of the same—and upwards of fifty names for a sweet potato, and forty for a [46] common one. Nevertheless, in words for abstract ideas, unknown to the New Zealanders, such as hope, gratitude, mercy, charity, etc., it is deficient; as also for many new things. It does not, however, follow, that an intelligent New Zealander, wishing to speak of any such, would not easily find suitable expressions wherewith to make himself quickly and clearly understood, and convey a very correct idea to the minds of the hearers. The writer has never known an old New Zealander (or a young one who knew his own language), ever to be at a loss accurately and minutely to describe whatever he wished of any new thing or transaction to his countrymen; at the same time it is believed by him, that the New Zealand language is but a remnant of what it once was, and is fast going to decay.

43. There is one Peculiarity of their Language, or rather, of their manner of dealing with it, that requires notice. If a principal chief should bear the name of anything, or be named with any word in common use, that thing would thenceforth, by his own tribe and friends, be called by some other name, and the word be changed for another. After his death, or after he began to be forgotten, such new names and words might drop, and the old words be again commonly used; but if such a chief had lived long, had great influence, and was either severe or greatly loved, (so as to make him to be respected, and the disuse of the said words more general and certain,) it is easy to see that the old terms would not always be restored; which in time must tend to make a great alteration in the language. No doubt to this source not a few of its strange aberrant words are to be rightly attributed. {Note 31}

44. They have many Proverbs and Sayings, and not a few Fables, most of which are very amusing, even to a European. Their proverbs are mostly derived from observation and experience; many of them express much wisdom, and serve to prove how very highly industry and skill was prized by their ancestors. One or two may be here quoted, although, like all others, they lose much by translation:—

"For the winter seek fuel, but food for the year."

"Plenty of food, plenty of vigour.  
 "Stand (to work) and thrive, squat and want food.  
 "Hasty to eat, lazy to dig.  
 "The seeker finds.  
 "Lazy hand, gluttonous throat.  
 "A wooden spear can be parried, not so a mouth one, (an accusation.)  
 "Will the escaped wood-hen return to the snare?  
 "Dark-skin and red-skin united will do it, (that is, the cultivation by chiefs and slaves together; formerly the chiefs always anointed themselves with a red pigment.)  
 "With the brave in war is great uncertainty, with the brave in cultivation is sure reward.  
 "A lazy and sleepy man will never be rich.  
 "Labour's gains are carried off by do-nothing."

Their sayings were mostly laconical expressions of men of other days, indicative of their feelings at having lost, or gained; and (as their stories were well known) were used as cautions and warnings. Their Fables were very natural and correct, and mostly conversational between animals, or natural objects; such as:—between the large rock lizard and the red gurnard; the cod-fish and the fresh water eel; the common [47] shark and the large lizard; the rat and the green parroquet; the sweet potato and the edible fern root; and the paper mulberry tree and the New Zealand cork tree. Had they more and larger animals, they might have had a volume of fables, rivalling those of Æsop, or of Pilpay.

Their Poetry was plentiful and various, and suited to all times and conditions—peace or war, work and ease, love and death, constancy and despair. Being naturally of a cheerful disposition, they were often humming a stanza, or verse; and frequently beguiled the monotonous drudgery of some of their heavier work, performed together in company, with suitable inspiriting chaunts and songs, in which all joined in chorus, and which always had a surprising effect. In many of their old songs, as in their proverbs, industry is highly praised. Such heavy work comprised, paddling of war canoes—or dragging them out, when new, from the forests (which they sometimes did up and down hill and ravines for many a mile)—or over necks of land (peninsulas) on their voyages—or when digging together in their cultivations, or fern lands, with their wooden spades. The funereal wails and dirges, were only used on occasions of death; to attempt to use them at any other time was considered highly improper. Their war-songs and defiances, contained horrible curses, and were truly ferocious, and must especially have so sounded in the ears of a New Zealander. Several of their love songs possess tender and affecting passages; a selection from them would bear comparison with the most celebrated ones of Britain. Their sentimental songs, expressive of abandonment, loneliness, and despair, contain much pathos, and simply sung in their peculiar low notes and melancholy cadence, are very affecting. They had also baby-songs, which they chaunted to their infants. The whole of their poetry, while often possessing pleasing natural images and strong gushing sentimental utterances, was equally destitute of rhyme and metre; which deficiency they managed to get over in the using, by lengthening and shortening vowels and words—much after the manner of a chaunt. Proving here, as at the

antipodes, that the popular mind always conceives of something in poetry far higher than mere versification. From a close examination, however, of their poetry, it is apparent, that the New Zealand poet had taken some pains towards rhythm—a first step as it were, towards shapeliness; the blocks and logs had been rough-hewn and riven, though neither file nor chisel had ever approached them. This is seen—in the frequent omission of grammatical particles, in the abbreviation of proper names—in the ellipsis of portions of words and sentences—in the curious divisions of words at the end of a line, (half being in one line and half in another)—in the unusual lengthening of vowels—and in the peculiar reduplication of syllables. It is this which makes it so difficult to understand or translate. Much of their poetry is very old; none, worthy of notice, has been produced by the present generation. All the various poetical effusions—praises and laments—which from time to time during the last twenty years have appeared, respecting our several Governors, Her Majesty the Queen, the late Prince Albert, etc., etc., are old, and merely hashed up again (perhaps for the hundredth time) and dexterously *improvised* for the occasion. A characteristic of the New Zealander, and one in which they greatly excel. Much of the so-called “translations” of New Zealand poetry, which have been from time to time printed, are not really such; (not [48] even allowing the utmost latitude to the translator;) they are mostly wild paraphrases, not unfrequently lacking the ideas of the original.

46. Like other rude martial unlettered nations, the New Zealanders had many Traditions, Legends, and Myths. These were on all subjects, from the gravest and most sublime to the most puerile and ridiculous; not unfrequently the same myth containing both. Some of them are, no doubt, of very ancient date; others, while still old, are more modern, and have modern interpolations. The language in all is modern, much more so than in several of their songs. With most, if not all nations, their early religion and early history is blended with fable; but there is this difference with the New Zealander, that the large proportion of his traditions and myths are neither religious nor historical, and were not believed to be such by the intelligent among them. Their common myths vary a little; a few considerably, in the various districts (especially those relating to the arrival in New Zealand of their immigrant ancestors); but not more than might be reasonably expected from such a people. They all show their common New Zealand source; and, as far as is known, vary very much indeed from anything similar among the Polynesian race. To understand them they should be read and studied in their original New Zealand language; in their roughness and originality; not in either the meagre, or the polished semi-classical, dress, which some of them have been made to assume in translations. The celebrated myths of dry land and sky; of Maui fishing up the North Island of New Zealand; of his obtaining fire for man; of his seizing and beating the sun, to have longer daylight; and of the untimely death of the hero through the laughing of the little New Zealand flycatcher; of the ascent to heaven of Rupe and of Tawhake; of the arrival of the first New Zealanders in this country; and many others;<sup>172</sup> are all so many indications of the mind of man groping after truth in ages long past. In the writer's opinion many of those myths will be found to be allegorical.

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172 WC: Posterity will be greatly indebted to Sir George Grey for the exertions made by him to obtain and record many of these myths, the recollection of which is fast dying out.

"The intelligible is food to that which understands.—For the paternal intellect, which understands Intelligibles, and adorns things ineffable, has sowed Symbols through the world."

ZOROASTER

47. A few words must be said about their Oratory, or rather, oratorical language. Some of the New Zealanders were truly natural orators, and consequently possessed in their large assemblies great power and influence. This was mainly owing, next to their tenacious memories, to their proper selection from their copious expressive language; skilfully choosing the very word, sentence, theme, or natural image best fitted to make an impression on the lively impulsive minds of their countrymen. Possessing a tenacious memory, the orator's knowledge of their traditions and myths, songs, proverbs, and fables, was ever to him an exhaustless mine of wealth. For the New Zealander, both speaker and hearer, never tired of frequent repetition, if pregnant and pointed. All the [49] people well knew the power of persuasion—particularly of that done in the open air—before the multitude. Hence, before anything of importance was undertaken, there were repeated large open-air meetings, free to all, where the tribe or confederates were brought into one way of thinking and acting by the sole power of the orator. Their auditories applauded and encouraged with their voice, in an orderly manner, as with us. Not unfrequently has the writer sat for hours (some twenty or thirty years ago) listening with admiration to skilled New Zealand speakers arousing or repressing the passions of their countrymen—scarcely deciding which to admire the most—their suitable fluent diction, their choice of natural images, their impassioned appeals, or their graceful action! No young New Zealander of the present generation knows anything practically of natural Maori eloquence; arising not so much from colonisation and its many new things and ideas, as from a real deficiency in his knowledge of the past, and of the New Zealand language.

48. Several Europeans now speak the New Zealand language; few, however, correctly; still fewer idiomatically; and scarcely any in such a way as to be wholly grateful (*reka*) to a native's ear. The reason is, their ideas, language, and gesture (if any) are altogether foreign. They have never thought, or cared to think, in *Maori*; hence, while many of them are ready to speak of the meagreness of the New Zealand tongue, the leanness is entirely on their own side. There are not a few Europeans who have grown grey in service in New Zealand, and who have been speaking (in their way) the language every day of their lives, who neither speak it correctly nor clearly understand it. Some Europeans have even ventured to write "learnedly" upon it! using (without acknowledgment) the material obtained by others, and racking and distorting by turns Hebrew, Sanscrit, Arabic, Greek, Coptic, Spanish, and many others; never once suspecting their own ignorance of that of New Zealand! It is surprising how few words—and those of the common every-day sort—suffice to talk daily with natives (or ourselves), especially when that intercourse is mainly of one kind. It is also remarkable how very soon natives get to know the true mental calibre of a white man; to gauge, as it were, his knowledge of their language and of themselves, and to say and act accordingly. Setting wholly aside for the time, with him, their own true grammar, pronunciation, and idiom, to suit and accommodate him; while he does not perceive or suspect it. Not a few of our old missionaries, officials, and settlers, are thus continually being politely treated by them—from the old native woman down to her little toddling grandchild. It is also to be regretted, that not

unfrequently the translations made for the Government of English documents into the New Zealand language, are more or less faulty; partly, no doubt, owing to the translator's contracted knowledge of the English language, and partly to the faulty correction of such printed documents. As, in the New Zealand tongue, the typographical error of a single letter is sure to alter the meaning of that word, and not unfrequently the whole sentence!

49. It is an astonishing fact, and one worthy of close attention from future philologists, that the Polynesian language, of which the New Zealand is a branch dialect, is commonly spoken by people scattered over [50] one-tenth of the whole globe! Throughout an island area, containing eighty degrees of latitude, and seventy degrees of longitude, from the South Island of the New Zealand group, in 47° S. lat., to the North Island in the Sandwich group, in 22° N. lat., and from the west coast of New Zealand, in long. 167° E., to Easter Island in 109° W., is this great Polynesian language spoken. It has also been detected,<sup>173</sup> in names of places, and in sentences used, in the Island of Madagascar in the Indian Ocean; although, from its not having been adopted by the Missionaries there in their translations, it is considered (viewed from this distance) as probably belonging to an older form of the present Malagase, or to a distinct and more ancient language. The Polynesian is therefore peculiarly an island language, being nowhere found on the main land in either the east or west continents; or in any of the larger semi-continental islands of the world. Another interesting fact is, that while there are many known dialects in use, some of which differ greatly among the various islands and groups within the above-mentioned area, the extreme outlying ones, *viz.*, the Sandwich Islands on the north; New Zealand on the south and west; and Easter Island on the east, are those possessing the dialects nearest to each other, in several instances the words and sentences being identically the same.<sup>174</sup> Williams, of the London Mission, (who spent many years among the islands,) considered the principal dialects as being eight in number, *viz.*:—The Sandwich, the Tahitian and Society, the Marquesan, the Austral, the Hervey, the Samoan, the Tongan, and the New Zealand. The number of letters required to form an alphabet in each of these dialects is about the same; although while one, as the New Zealand retains the *h*, the Hervey dismisses it; for the New Zealand *wh*, the Tahitian, Samoan, and Tongan have *f*; for the New Zealand *w*, the Austral and Marquesan have *v*. The nasal New Zealand sound, *ng*, is also used in the Hervey, Samoan, and Tongan, but it is rejected from the Tahitian, Sandwich, Marquesan, and Austral; the New Zealand *k* is also rejected by the Samoan, Austral, and Tahitian, while it is used by the Marquesan and Hervey Islanders, and serves for *t* in the Sandwich group. There can, however, be but little doubt, that had those dialects been reduced to writing by one man, or one party of men, the few differences which appear would be even less than they now are. At present it is almost difficult to say which of those eight should be considered as the standard or leading dialect; but while the writer has always inclined to the New Zealand, (partly from internal philological considerations, observed in comparing it with the cognate dialects,) and partly from the fact of its having—as already stated—remarkable affinity with those the more distant, *e. g.*, Sandwich group and Easter Island, he

173 WC: By the writer, in 1835.

174 WC: The dialect of Rarotonga, one of the Hervey group, in 160° W. long., may also be here included.

is now strengthened in his opinion, in finding that Mr. Williams, (L.M.) was also nearly of the same opinion, although he knew very little indeed of that of New Zealand. He says, "I shall select the Tahitian as the standard, and compare the others with it. I do this, however, not because I think it the original; for the Hervey Islands dialect appears to possess superior claims to that title, as it is so much more extensively spoken, and bears a closer affinity to the [51] other dialects than the Tahitian, but because the latter was first reduced to system." Now, as the Hervey Islands (Rarotonga) and the New Zealand dialects are very near each other, it will not perhaps be too much to assume that the New Zealand dialect (spoken, as it is, by the largest number of natives, and over the greatest area) is the standard or leading dialect; but this will be still more clear when its philological claims come to be considered.

#### § IV.—PALEONTOLOGICAL.

50. The question has very often been asked—*Whence came the people who were found inhabiting the islands of New Zealand?* and this question has not yet been satisfactorily answered. It is therefore proposed to take up the consideration of this subject, and possibly to place some matters connected with it in a new, or clearer light.

(1.) *Are the present New Zealanders autochthones?* The commonly received statement—that the whole globe was peopled from one pair, which pair primarily resided in Western Asia; the traditions of the people themselves; and (chiefly) their cultivated plants being exotics, and their only domestic animal not indigenous; and their language radically agreeing with that of other island groups, are the present reasons for disallowing this.

(2.) *Were there autochthones?* Possibly, or rather, very likely. *a.* From the fact that no large island like New Zealand, however distant from the nearest land, is uninhabited. *b.* From the fact that nearly all the numerous islands in the Pacific, though vastly smaller in size, teeming with population. *c.* From the fact of a remnant at present existing in the Chatham Islands (the nearest land to New Zealand), of a race which is allowed by the present New Zealanders to be truly aboriginal, and before them in occupation. *d.* From their traditions, and fear of "wild men" in the interior. *e.* From the allusions, and even direct statement, in their traditional myths, of their having found inhabitants on their arrival in the country, both at Waitara, on the west coast of the North Island, and at Rotorua, in the interior. But if there were, which appears very probable, they have been destroyed, or become amalgamated with the present race.

(3.) *Did the Immigrants come from the nearest land? (Australia, etc.?)* No: proved by their being a wholly distinct race, in appearance, civilisation, manners, customs, habits, and language.

(4.) *Whence, then, came they?* (Before entering on this question, it should be carefully noted that could the island be clearly shown whence they came, such would not really answer the question; it would only remove it a step farther off.) In reply to this—

(i.) Very little can be gathered from their own traditions worthy of any credit; save that, (*a.*) some arrived hither in canoes; and (*b.*) that those arrivals were successive. Even these two postulates could scarcely be allowed, were it not for two facts—first, that their only cultivated vegetables

were exotics; and, second, that the principal different tribal, or district varieties among the New Zealanders—as seen in Physiology, Language, and Traditions—partly coincide with what at present obtains in some of the Island groups. The use of the nasal sound *ng* by [52] two-thirds of the New Zealanders agree with the usage in the Tonga, Samoan, and Hervey Islands; the omission of the *h* and the substituting instead of a peculiar click, (as done by the Cook's Straits and West Coast New Zealanders) agree with those of Austral Island and Rarotonga; and the dropping of the nasal sound *ng* by the natives of the Bay of Plenty, and using *n* instead, agree with those of Marquesan, Society, and Sandwich Islands; while the New Zealand use of the *k*, agrees with that of the Hervey, and the Friendly Islands.

(ii.) In their traditional myths, the New Zealanders also say that they came hither from "Hawaiki." The writer was formerly of opinion, (in 1835–6, which has subsequently been taken up as valid by several others,) that this Hawaiki was identical with the Sandwich Islands, or Hawaii,—the *k* being dropped according to the rules of their dialect;—but he has long given that up as untenable. (1.) From the utter impossibility of their having come that distance, ( $65^{\circ}$  of latitude), against the prevailing winds in their frail open canoes; and (2.) from the irreconcilable differences which exist in their habits, customs, manufactures, traditions, and religion. By way of illustration, the following may be here briefly mentioned, (bearing in mind, that the New Zealanders, like most other uncivilized people, most pertinaciously adhere to the plans, patterns, and sort of things made by their ancestors);—(*a.*) all the various kinds of New Zealand canoes are very differently made: (*b.*) they have no outrigger: (*c.*) the New Zealanders never used the *kawa* root, (notwithstanding a very closely allied species of *piper* grows throughout New Zealand): (*d.*) nor the bow and arrows: (*e.*) the New Zealanders invariably carry their burthens on their backs, the Sandwich Islanders on a balance pole over the shoulders: (*f.*) the New Zealander has no words for swearing, oath, or vow: (*g.*) the New Zealander never practised circumcision:<sup>175</sup> (*h.*) nor had any temples for religious worship: (*i.*) nor idols; (*j.*) nor king: (*k.*) they knew not the names of the numerous chief gods of the Sandwich Island: (*l.*) their old customs respecting their Chief, etc., do not agree: (*m.*) their tattooing is different: (*n.*) they had no "refuge cities" (a most remarkable custom, only found at the Sandwich Islands): and (3.) from there being no vestige of any of their several emigrations from Hawaiki, and of the wars, etc., which occasioned such, (as related by the New Zealander,) to be found in the ancient history of the people of the Sandwich Islands, whose traditions are much more ancient and clear than those of the New Zealanders.

(iii.) Others have supposed the largest island of the Samoan, or Navigator's, group—called by the same name, *Sawaii*, (the sibilant being used for the aspirate—*Sawaii*, *Hawaii*, *Hawaiki*,) to be the Hawaiki of the New Zealanders. This opinion has been warmly supported by several later writers,<sup>176</sup> but, with the sole exception of the Samoan group being only half the distance from New Zealand that the Sandwich Islands are, certainly with much less reason than the former. For, in addition to the objections adduced

175 WC: Vide Cook's Voyages, 4to. Ed., vol. iii, p. 50.

176 WC: Erskine's "Journal of a Cruise in the Western Pacific," p. 103, ed. 1853: et. al. It may be noticed, by the way, that Dr. Thompson, in his elaborate compilation, "Story of New Zealand, London, 1859," speaks of this view as being peculiarly his own!

against the Sandwich Islands being the New Zealand [53] home, or Hawaiki—here, at the Samoan group, they never tattoo their heads and upper part of their bodies, but only from the waist downwards, and that in a wholly different style; the women also are never tattooed; the men, including chiefs of the highest rank, do all the cooking;<sup>177</sup> their dialect, on the whole, has much less affinity with that of New Zealand; their traditions about the creation of the earth, etc., are widely different; and the *kumara*, or sweet potato (common at the Sandwich Isles), they have not among them.

(iv.) But even if it were conceded, or proved, that the New Zealanders really came from the Hawaiki of either the Samoan or the Sandwich group—the next question would be, Whence came their ancestors? (*Vide infra, par. 53.*)

(v.) There is yet another view to be taken of this word Hawaiki, or Hawaii, which at least is not wholly unworthy of notice, *viz.*—to consider the New Zealand tradition of their emigration thence to New Zealand more as a figurative or allegorical myth than anything really historical. Such is wholly in keeping with all their other traditional myths, and with the genius of the race; and also with the common legends of all nations. Viewing it thus, Hawaiki, or Hawaii, will no longer mean any particular (if any) island; and may prove to be a portion of a still more ancient myth than that of the fishing-up of the Northern Island of New Zealand by Maui. Williams (L.M.) says, that “one of the Polynesian traditions concerning the creation of the world and of the first peopling of it, was, that after the island of Hawaii was produced by the bursting of an egg, which an immense bird laid upon the sea a man and a woman, with a hog, a dog, and a pair of fowls, arrived in a canoe from the Society Islands, and became the progenitors of the present inhabitants.” And another account, given by Turner,<sup>178</sup> represents Tangaroa, the great Polynesian Jupiter, as rolling down from heaven two great stones, one of which became the first land, or island of Savaii—(or Hawaii,) in the Samoan group. Very likely it may yet more clearly be seen that this mythical or allegorical Hawaii, or Sawaii, of those two groups, is also the mythical Hawaiki of the New Zealanders—the whole being fragmentary portions of the legend of a flood which are found underlying the myths of all ancient races. By whom, however, the universal greatness of the event (as found in the Biblical record) is generally lessened or lost sight of; while the legend itself is contracted into a matter of insular national and special interest, serving to carry back the forms of every-day life into antediluvian ages. Common proofs of the inventive mind of man ever seeking to understand the why and the wherefore of things around him.

51. Leaving, however, for a while the further consideration of the *place* whence the immigrant ancestors of the New Zealanders may have come, let the endeavour now be made to ascertain the *time* when they arrived in New Zealand. Here again, little really valuable, of a positive nature can be gathered from their traditions. The writer very well knows, how cleverly the different tribes of New Zealanders contrive to [54] deduce their descent from some one of those early (mythical) emigrants; although in so doing, they diametrically oppose each other in their early genealogies;

while others, finding no means of tacking themselves on to a “parent stem,” cut the matter short by saying their ancestors came from Hawaiki on the water by enchantment in a few hours;—or under water, by diving—or on the back of an albatross, etc., etc.! And the writer also knows, how many late writers and lecturers on this subject, have repeatedly stated their full belief in the historical truth of such traditions! And not only so, but by proceeding to calculate the generations of the New Zealanders, (believing, of course, *all* their genealogical statements,) have come to the conclusion, that “their dwelling in New Zealand has not been more than 500 years;” scarcely four centuries before Cook, and not three before Tasman discovered them (A.D. 1642)! In reasonably prosecuting this enquiry, a few old truthful witnesses will have to be carefully examined; and although their evidence (from the nature of the case) will scarcely be any other than purely negative; yet, combined, the reasonable proof they will yield of great antiquity may be sufficient to establish its claim for favorable consideration to the intelligent and scientific mind.

(1.) *Tradition*—uniformly speaks of the Northern Island of New Zealand having been fished up by Maui. How did this peculiar myth arise concerning this one Island? Did the first inhabitants see recent signs of upheaval, which (geologically speaking) are patent to us, especially on the East Coast, and in the Hawke’s Bay province? Further: tradition speaks of the vehement struggles of the said, huge earth-fish after having been brought to the surface, (owing to the impiety of the brothers of Maui, who, in his absence, had proceeded to cut up his fish,) which caused the very broken and abrupt appearance of the country:—may this be also considered as indicative of subsequent violent volcanic action, known to the first inhabitants? What necessity was there for such an addition to the Polynesian myth of Maui, seeing either of the countries they had left (Hawaii, or Sawaii), were *more* broken? Again: the hook, with which Maui had fished up the land, was said to be at Cape Kidnappers, in Hawke’s Bay—no doubt from the curved extension of the land at that cape in ancient times, when the present two islets lying off it were joined to the land—but those two islets existed, as now, in Cook’s time. And long before that period (owing to the very gradual irruption of the sea there at that clayey cape) the ancestors of the present natives, seeing the “hook” was gone, had removed its locality to Cape Turnagain, which cape also had a similar, though smaller curvature; this, too, has long ago been washed away. May not this be considered as another item in favor of antiquity? Tradition also speaks of many local portions of the North Island having been upheaved, fallen-in, submerged, and deluged — of the old channels of the present rivers having been far off from, and flowing over much higher ground than where they now are; of chasms having opened, and of the escape of the imprisoned monsters (*Taniwha* or *Ngarara*) to the sea, and, in some few cases, of their having been killed by some renowned hero of former days. Now in most of these instances alluded to (some of which places the writer has seen and examined) a thousand years would scarcely suffice for their subsequent forests and depth of vegetable *humus*. Again: the [55] *stone* canoes in which those mythical emigrants arrived, scattered on both the East and West Coast, (one being on the crest of a high range, twenty miles from the sea); the footmarks of Rongokako, one of those emigrants, also left in stone at various parts of the East Coast; the several men metamorphosed into large perpendicular stones at Manaia, in Whangarei Harbour, etc., etc., all indicate a long time back in the old night preceding all history; or such

177 WC: Turner says—“The duties of cooking devolve on the men; and all, even chiefs of the highest rank, consider it no disgrace to assist in the cooking-house.”—Nineteen Years in Polynesia, (p. 196.)

178 WC: Nineteen Years in Polynesia, p. 245, ed. 1861.

conspicuous stones would not have been handed down and narrated by such a shrewd inquisitive race as the New Zealanders. Lastly: the tradition which the writer received in 1837, from an intelligent aged "priest" in the Bay of Plenty, respecting Tuhua, or Mayor Island, there, *viz.*, that anciently the Northern natives obtained their prized greenstone from that island; but, that the guardian-god being vexed covered it with excrementitious substances, and swam away with the fish which produced it to the Middle Island, whence, subsequently all the greenstone was with difficulty obtained.—Now, as the island is an eruptive volcanic mass, this tradition, in more ways than one, points to a time long since past.—Often what is not scientifically correct has in it a deep and pregnant truth of feeling.

(2.) *Archæology.* In repeated travelling in the North Island, from Cook's Straits to Cape Maria Van Diemen, during more than a quarter of a century, and that by bye-paths long disused, through forests, and over mountain and hilly ranges, the writer has been often astonished at the signs frequently met with, of a very numerous ancient population, who once dwelt in places long since desolate and uninhabited:—Such as the number and extent of their hill forts, cut, levelled, escarped, moated, and fenced, only with immense labour (considering they had no iron tools);—and the number and extent of their ancient cultivations, all long since overgrown; and the enormous mounds of river, lake, and seashells, sometimes clearly revealing the slow accretions through years or centuries, by their accumulations having been made *stratum super stratum* with intervening layers of vegetable mould and *humus*—each stratum of shell possessing small fragments of obsidian, which mineral (used by them for cutting their hair, and themselves in lamentation, and also for scraping their finer woodwork) being only found in one or two districts, had been brought from a great distance. He also noticed, and that in more than one or two places, that some of the ancient New Zealanders buried their dead in the earth or sand; skulls having been met with, and skeletons which had been buried, and from which the winds had removed the soil. On enquiry, it was found, that none of the present generation knew aught of the people to whom such bones had belonged; they also expressed no astonishment at them, and always disowned their ever having belonged to their tribe, and which, indeed, their conduct showed. Moreover, the very great number of their jade (greenstone) war implements and ornaments, (found by Cook and others, even at the Bay of Islands and the North Cape,) seem to indicate their antiquity as a race in New Zealand. The great number appears the more remarkable when it is considered that they always endeavoured to hide them securely in time of war, through which great numbers have been lost. Now that stone is *only found at one spot in the Middle Island*, difficult of access [56] both by sea and land. It was only obtained thence with great difficulty, increased through the superstitious belief that it was produced by a "fish" under the guardianship of a "god," to propitiate whom many ceremonies were observed. Further: there is also the known antiquity of many of those prized stone weapons and ornaments which have descended as heir-looms through several generations, and the great length of time necessarily taken in the making of one of them. Again: there is the silent evidence of the *mako*, or tooth of the long-snouted porpoise, the prized ear ornament of the New Zealanders, many of which are also heir-looms of great antiquity. How did their ancestors obtain these teeth seeing the animal which produces them inhabits the open ocean? The natives say, by occasionally finding the animal driven on shore after

a gale. But during the writer's long residence of more than thirty years, always on the sea coast, and his frequent travelling over all the beaches, he has only heard of *one* of those animals having been found, and that was too small for its teeth to be of any value! What amount of years, then, may it not reasonably have required to obtain all those teeth now left among the natives—exclusive of the large number sold and lost. {Note 32}

(3.) *History.*—From Tasman and Cook we learn that the natives were very numerous. Tasman, who came suddenly upon them from the South, coasting up the western side of the Middle Island, and who only remained at anchor for a few hours in one of its bays, was visited by eight canoes filled with men, who attacked him, and having killed his quarter-master and four others, they retreated, bearing off one of the bodies. Tasman "immediately left the scene of this bloody transaction; when twenty-two more boats put off from the shore, and advanced towards them." From a drawing given by Tasman, we find the "boats" he speaks of to be the ancient double canoe, long since out of date. This occurred in 1642: some 280 years (according to our calculators) after the arrival of the first few emigrants in this country! Here, let it be observed, that according to the natives' own legends, those so-called emigrants were not many in number; that they soon fell out among themselves, went to war with each other, and slew several where they had landed in the Bay of Plenty; and that of the remainder, many went inland, and farther north in the North Island, and settled. Yet Tasman found the inhospitable and colder latitudes of the Middle Island, near Cape Farewell, so thickly peopled as to send thirty boats and canoes from one beach, well manned, to the attack. Cook, who had long and repeated interviews with them during his different voyages, and who was associated with scientific and observing men; (although, both from the nature of the country and character of the people, he could only have seen those tribes who lived on the sea coast and *near* to his anchorages, which anchorages were not many in the vastly more populous Northern Island)—Cook was of opinion, that they were very numerous; so also were the two French navigators, D'Surville and Crozet, who arrived in New Zealand shortly after Cook. But what has ever been of great weight with the writer, as being highly corroborative of the correctness of the opinion formed by the early navigators is, the statements they give (especially Cook) of the innumerable number of canoes, of the number of large seine nets, which they everywhere found in houses [57] erected purposely for them—of the extent of the *kumara* or sweet potato cultivations, and of the very many places on the immediate East Coast—particularly between Capes Palliser and Kidnappers, and Capes Rodney and Brett, and Cape Pococke and the North Cape, which then abounded with *Pas*, (forts and villages), and swarmed with people; but which are now, and have been for many years, wholly uninhabited! All which, it is believed, silently indicates the ancient settlement of the race, especially when their warlike character and habit is also considered. {Note 33, 34}

(4.) *Habits, Customs, Manufactures, Ornaments, and Tattooing.*—Very many of the habits and customs of the New Zealanders, indeed nearly all, are widely different from those of other Polynesian islanders, though belonging to the same race. So also their manufactures; whether the more useful and durable, as canoes, houses, implements of wood, etc., or the many varied textile ones, for clothing and daily use; all differed, and that greatly. And when their immense variety, with their woven and dyed ornamental

patterns, and their skill in manufacturing, is also considered, how long a time would it not require for them to *lose* all the *old* knowledge (which they had brought with them) and to gain the *new*; and also to use it successfully upon entirely new materials? (For not only is the New Zealand flax plant (*Phormium*) not found in the other islands, but also no like fibrous substitute.)—And that by a people so prone to copy, and so exceedingly tenacious of innovation;—by a people, too, who, according to their own traditions and legends, and the sad experience of the early navigators, were so prone to war and murder. Again: tediously to fashion their war implements of whalebone, and of jade (green or axe-stone), instead of hardwood, was wholly a new thing to them; and these substances were only occasionally to be obtained, and that slowly and with great trouble and labour;—could such a change—such an entire revolution—one, too, almost needless, have taken place save in a very long lapse of time? Moreover, the peculiar carving of all their greenstone breast ornaments (*Heitiki*) which possess great sameness, and which might be correctly styled national, differs from any other Polynesian carving particularly in the invariably reclined, not erect, head, and in only having three fingers to each hand (which striking peculiarities also invariably obtain in all their old carving); could such a great change in the national taste have taken place in a few generations? Lastly, the tattooing of their chiefs, which entirely differs from all other Polynesian Islanders, and which has certainly not varied in the least during the last 150 years; could such an universal revolution in their old tastes possibly have taken place in the short period which preceded, of 350 years?

(5.) *Language.*—The negative evidence to be obtained from this source is very important. Language adheres to the soil, when the lips which spoke it are resolved into dust. “Mountains repeat, and rivers murmur, the voices of nations denationalised or extirpated in their own land.” It has already been briefly-shown in what respects the New Zealand dialect differs from other dialects of the great Polynesian language,—as far as relates to the change or substitution of letters; but there are still greater differences observable in the dialects of the two groups—Sandwich and Samoan—(from one of which it has been said the New [58] Zealanders emigrated hither) and the dialect of New Zealand; of which the great difference in the causative verb in the Sandwich Islands, and of “the distinct and permanent vocabulary of words” used in addressing chiefs can only be here mentioned. It is also noticeable, that the names of “gods” whom the mythical emigrants are said to have consulted before leaving, are not known as such in those islands; and all the names of the emigrants themselves are pure New Zealand words, which do not exist in the dialects of those islands. Their traditions and songs, however ancient, are all very distinct; for although some of the New Zealand myths do possess a few of the names of the numerous Polynesian “gods” or deified heroes, they are all assigned a very different and inferior position and work by the New Zealanders. Could all this have been brought about, in less than a very large number of years? So with the subdialects observed in New Zealand, which agree in their outline characters with others in the Pacific, (as has been already stated,) and which were much more strongly defined formerly than they are now; (mainly owing to the introduction of a written language within the last 30 years, which has caused the chosen one, or two, of the sub-dialects to become both commonly used and dominant;) could those tribes also severally set aside their own many peculiar words, and adopt words which were strange and new (N.Z.)

in such a short period? or, rather, did they not gradually do so, through the long lapse of ages, and of little intercourse; while they still retained their characteristic tribal pronunciation and manner of speaking?

(6.) *Religion.*—It is well known that the Sandwich islanders (Hawaii, or Hawaiki,) had an old and costly idolatrous worship, possessing ancient temples, and many ceremonies. It almost seems too ridiculous, momentarily to entertain such a notion, as, that such a ceremonial worship had only originated 400 years before Cook visited them; or, in other words, that it sprang up (*de novo*) after our emigrants to New Zealand had left. Yet both these positions the believers in the New Zealand immigration myth, from that Hawaiki, must be prepared to support. For, certainly had those emigrants known of it they could not so easily and entirely have cast it off. So again at Savaii (or Hawaiki) of the Samoan Group; their religion was if possible, still farther from anything that either has, or reasonably might have, obtained in New Zealand. For there, “every village had its god, and its small temple consecrated to the deity of the place.” A woman would say, on the birth of her child, “I have got a child for so-and-so, and name the village god.”<sup>179</sup> In their village temples, too, were objects for veneration. They also daily offered meat-offerings and drink-offerings to their god; and this at home in every house. And their many taboos (*tapu*),—the sea-pike taboo, the white shark taboo, the cross-stick taboo, the ulcer, the tic-doloreux, and the death taboo, the rat, and the thunder taboo, etc., etc., were all differing widely from anything which has ever obtained in New Zealand.

(7.) The *Moa, Dinornis.*—Its valuable evidence is purposely omitted, as the writer still holds to his original opinion (published twenty-three years ago,<sup>180</sup> and drawn both from geological deductions as well as from [59] history,) in reference to its *never* having been seen alive by the present race of New Zealanders. For if it had been seen by them, and by them had been gradually killed and extirpated, (as some Europeans have *labored* to shew,) then no surer evidence could be desired as to the great antiquity of the present race in New Zealand.

(8.) After examining and weighing all this evidence gathered from various sources, the mind is irresistibly driven to accept the only logical conclusion,—that the *time* of the early or first peopling of New Zealand is one of high antiquity.

52. Further, it is believed, that it will also be satisfactory briefly to consider the first emigrants mentioned in the New Zealand traditionary myths;—the persons and their doings. The names of several canoes are given, also of their crews or leaders;—their marvellous adventures by the way; the numerous things they brought to New Zealand;—and the height of the men, “9 and 11 feet.” Also, that some of them had previously discovered New Zealand, in a voyage of exploration purposely made hither, and having coasted and visited different parts of it, had returned to the mother country and had been the means of others coming to New Zealand to settle; and that many of the canoes, on reaching the land of New Zealand, immediately set about circumnavigating the Northern Island!! etc., etc. In all this mythical rhapsody there is scarcely a grain of truth; and yet some educated Europeans have wholly believed it! The

179 WC: Turner's Nineteen Years in Polynesia, pp. 239, 240.

180 WC: In Tasmanian Journal of Natural Science, vol. ii.

New Zealanders themselves however, never did so. The names of the canoes and of the leaders are nearly all figurative names suitably coined in the New Zealand tongue, and given after the event; several of the latter being also the names of ideal beings in their mythology. They are all said to have come from *one* place; but it has been shown, and anyone may yet see, that they evidently came from several, as their sub-dialects, still partly extant, clearly show. They are also said to have come by several consecutive migrations; this alone would require a very long time. Their adventures on the way,—their enchantments, battles; and charms (excelling those of Munchausen, or Gulliver), are suited, perhaps, for the region of romance, but ought to have no place in any reasonable enquiry. Among the numerous things said to have been brought by them to New Zealand, were several of the *wild* New Zealand birds,—such as, the swamp *pukeko*, the green parroquet, the woodhen, and many others; also the New Zealand rat! and, with the exotic plants the *Karaka* tree, which last they everywhere planted; but, unfortunately for them, the tree is not found anywhere else; the canoes which brought them are spoken of as being only ordinary canoes, and some even small, yet to contain 140 men! And, while several kinds of food (*used by New Zealanders*) are spoken of, no mention whatever is made of any of the peculiar edible productions of the islands; or of water, none of the Polynesian islanders having any large water-holding vessels. Some of their leaders are described as leaving in great haste and flying for their lives,—others as being of monstrous size, and able to accomplish anything,—even to run to the top of the mountain Tongariro, or to dive under the island and emerge on the other side, or to tame whales,—nevertheless to be subject to all the common infirmities of smaller and ordinary men. {Note 35}

53. To return: the question put (*par. 50, sec. iv.*) has not yet been answered:—*Whence came the Maori,—the Polynesian race?* It is not, [60] however, the present intention of the writer to go deeply into the subject. Only a few thoughts and excogitations will be here set down.

i. That the race is *one*, throughout the numerous islands in the Pacific Ocean where the language is spoken. (*Vide, par. 49.*)

ii. That from its original wide separation into groups, sufficient time must be allowed for the perfect grammatical construction and full development of its leading dialects; the growth of its many and varied habits; customs, and manufactures; and the slow change and product of its various mythologies and traditions.

iii. That notwithstanding their long and sanguinary wars among themselves from time immemorial, prior to their discovery by Europeans, the respective islands were teeming with population. {Note 36}

iv. That while some have supposed the race to have sprung from the Malays, from a very slight physical resemblance, and from the likeness of a *few* words of their language; there is quite as much, if not a greater, physical resemblance between the race and the people of Madagascar (on the opposite side of the globe), whose language also contains a few words and sentences which are identical.

v. That, with the exception of the Islands of New Zealand, which are the farthest south, the race is almost exclusively found in the easternmost isles and groups of the Pacific; and not in the numerous isles nearest to the Malays.

vi. That it would have been impossible for any regular migration to have ever taken place from the Malays to the

Polynesian islands, owing the frailness of their shipping,—and to the prevailing trade winds and equatorial currents being contrary.

vii. That the Malays were found, by Cook, and the earlier navigators, to know the use of iron and other metals, and invariably to chew betel, drink Palm wine (*toddy*), smoke, cook in earthen pots, live in partitioned houses, and to be strict monogamists; none of which national habits and customs, nor the knowledge of any metal has been detected among the Polynesians.

viii. That the near resemblance or even identity, of a few (*quasi*) Malayan words prove really little, when it is considered (1) that those words only obtain among the sea coast natives of Malaya; and (2) that the *same* words are found more or less in use in the sea coasts of Java, Sumbawa, and the Phillipine and other isles, including even Madagascar. May it not therefore be reasonably enquired, whether those few words might not rather have reached those several Northern Asiatic isles from Polynesia, than *vice versa*?

ix. That the language spoken by the Polynesian race has no affinity with the Malayan; being in its whole formation and construction of a far more primitive and ancient cast. The structure of the Malayan language is wholly different.

x. That if the origin of the people on some few of the islands (in the lapse of ages) might have arisen from a drift canoe, (which seems next to impossible), exotic edible roots were not at all likely to have been by such means imported; nor the peculiar and ancient Asiatic drink of Palm wine (*toddy*) to be to them, where the Cocoa-nut is everywhere indigenous, wholly unknown.

xi. That the *kumara*, or sweet potato, so generally cultivated in the [61] islands by the Polynesian race, is believed on good grounds to be only indigenous to South America.

xii. That a large migration has ever been traditionally spoken of, as having anciently taken place from Mexico and Central America, (on the breaking up of the Toltec Empire;) and that it is an easy and short voyage, and one not impossible to large canoes, from Central America to several of the nearest Polynesian islands.

xiii. That of all the various dialects to be found among the largely scattered Polynesian race, the New Zealand dialect agrees most with that of the little isolated islet called Easter Island, and next with that of the Sandwich group; which islands are also the nearest of all the inhabited isles to the shores of America.

xiv. That the carving of the Polynesian race, and particularly of the New Zealanders agrees most (as far as is at present known) with that of the ancient inhabitants of Central America, as shown by the late discoveries at Uxmel and Palenque.

xv. That like the ancient inhabitants of Central America the New Zealanders obtained fire by friction; and steeped poisonous kernels of the *karaka*, etc., to obtain a food, much as those also did the poisonous roots of the Mandioc or Cassava plant.

xvi. That there is incontestable geognostic evidence of a chain or series of active volcanoes surrounding the Pacific Ocean.

xvii. That there are good reasons for believing that very great changes have taken place in the Pacific through volcanic agency.

xviii. That there are also good reasons for believing, geologically and analogically, from what we see in Europe, and also here in New Zealand—that anciently the volcanic *focus* (or *foci*) in the Pacific was nearer its centre than it is now.

xix. That there are also reasons for believing that through such agency, a continent, or large continental island, or islands, have been wholly, or partially, rent, and submerged in the Pacific Ocean.

xx. That it is a highly interesting fact, and one that is increasing in importance every day, that the large majority of animals and plants of the whole island region inhabited by this great race, while more or less allied in themselves, are peculiar to this region.

xxi. That in New Zealand, and in several other islands of the Pacific, there are species of European, African, and American plants, identical with the plants of those countries, but which have not been taken to the Pacific islands by the agency of man.

xxii. That there are living remnants of an apparently earlier creation; both animal and vegetable, in the Pacific isles and seas.

xxiii. That the Polynesian race of man may be a fixed variety of the genus *homo*.

xxiv. That there seems to be just the same kind of difficulty attending this question as attends that of the geographical distribution of animals and plants among the Polynesian islands.

xxv. That the Polynesian variety (*stirps*) of the genus *homo*, may be an earlier one than the Caucasian or European; and from its creation peculiar to its own (now) insular region.

xxvi. That it is believed, that while the fair Polynesian race everywhere exhibits signs of great antiquity, it also bears unequivocal symptoms [62] of great and rapid decadence, or universal deterioration and decline. {Note 37}

xxvii. That the origin of the Polynesian race is a problem that has yet to be solved; and it is believed (having firm faith in the vocation of Man, and his power to fulfil it) that IT WILL BE SOLVED.

## § V.—MODERN.

54. This period, comprising nearly a century, from the discovery of New Zealand by Cook to the present—is a most eventful one in the history of the New Zealanders. A large and instructive volume might be written of the principal acts and actors, men and things, of this period. Time, however, will only allow of a very brief mention in this Essay, of the most prominent of them. It was during this century that four European quadrupeds were introduced into New Zealand—the pig, the dog, the cat, and the rat. These have each done its share in the work of effecting a great change in the country. Had foreigners ceased to visit New Zealand, after the introduction of those animals, the country would no longer have been the same it once was to its *Maori* inhabitants. And it is a question difficult to answer, whether their introduction alone, followed by such a circumstance, would have been a benefit or an injury. These four animals (especially the two smaller ones) destroyed the choice and numerous ones of the *Maori*;—the edible rat, the kiwi, the quail, the ground parrot, and the birds generally; while the foreign dog was also the cause of the entire loss of their own peculiar little dog (to them a most useful animal);

and the pig caused them an enormous amount of extra work in everywhere fencing their many cultivations; as well as became the cause of much dissension, strife, and fighting. It is highly instructive to trace and to see the great and important changes, affecting even the destiny of peoples and nations, which are sometimes brought about by apparently unimportant and trivial circumstances.

### 1. Foreign, or External.

55. From their discovery by Cook in 1769, to the visit of Governor King in 1794. This first quarter of the past century seems to be a very proper division; beginning and ending with their two greatest known foreign benefactors during that period. Cook found the New Zealanders numerous, healthy, strong, industrious, abounding in children, contented, and happy. As is well known, he visited New Zealand five times during the years 1769–1777; on two of which visits he was also accompanied by Capt. Furneaux. From Cook the New Zealanders received many valuable things—more especially the pig and potato, which have proved an incalculable blessing to the people. Unfortunately, Cook was obliged to show them his superiority, by using his fire-arms no less than twelve times during his first visit, and to shed blood on each occasion, through which several natives lost their lives. That more serious collisions did not take place was, without doubt, owing both to his able manner of dealing with them, and to his having with him the Tahitian islander, Tupaea, whose services as interpreter must have been invaluable;—and yet not always appreciated by the New Zealanders, as the [63] lamentable affray at Cape Kidnappers, (when they kidnapped and carried off his son Taieto,) fully show. It is remarkable, that while Cook was on the coast, during his first visit in 1769, the French navigator D'Surville also visited New Zealand, and spent some time, at anchor at Doubtless Bay, near the North Cape; during which he surveyed it, naming it Lauriston Bay.<sup>181</sup> Unfortunately, D'Surville, after receiving great kindness from the natives, came also into collision with them—burnt down their village, and carried off their principal chief, Kinui, prisoner. This chief died of a broken heart, on board of D'Surville's ship three months after, when off the island of Juan Fernandez. In 1771, only a few weeks after Cook's return to England, the celebrated Dr. Franklin projected a scheme for the civilization of the New Zealanders. His proposals were printed and circulated; but, owing to the sad massacre of M. Marion and his crew, which took place early in the following year, or some other cause, they were never carried out. In 1772, (before Cook's second visit,) another French navigator, M. Marion du Fresne, visited New Zealand in two ships, the *Mascarin* and the *Marquis de Castries*. These ships anchored in the Bay of Islands, and remained there two months; and at first, and for some time, there appears to have been great kindness and cordiality on both sides. Unfortunately, again a collision took place, in which Marion and twenty-eight of his crew lost their lives. Shortly after a very large number of natives were slain by the exasperated French. Cook paid his second visit in the following year, 1773, in two ships, Capt. Furneaux commanding the consort. On leaving New Zealand to prosecute their voyage, they were separated by a heavy gale, and Capt. Furneaux putting back to refit, to the same harbour they had so recently left, unfortunately got into collision with the natives, who killed the whole of his boat's crew of ten men,

<sup>181</sup> WC: Published by the Hydrographic Office, London.

ate them, and broke up the boat. Soon after this unhappy affair, Cook again visited them; and again in his fifth voyage in 1777; each time adding to his former benefactions. In 1791 they were also visited by the benevolent Vancouver, who spent a short time at Dusky Bay, from whom the natives also received several gifts. In 1793, another French navigator, D'Entrecasteaux, commanding two frigates, (*Recherche and Esperance*), in search for La Perouse, and having the naturalist L'Billardiere on board, communicated briefly with the natives living near the North Cape, who received from him several presents. In the same year, the English settlement at Norfolk Island having been lately founded, Lieutenant Hanson in the *Dædalus* was sent to New Zealand by Governor King to obtain some New Zealanders, to teach the new settlers at Norfolk Island how to manufacture the flax (*Phormium*), which was also indigenous there. Two chiefs were therefore carried thither; who, however, proved to be of little service for the specific purpose they were obtained; as the working of the flax in New Zealand was peculiar to women. They remained, however, with Governor King until the next year, 1794, when he honorably returned them to New Zealand, accompanying them himself, and giving them many useful things—among others a fresh supply of pigs, potatoes, and maize. There can be no doubt, but that their stay with Governor King, and his humane and kind treatment of them, were productive of great good. [64]

56. *From Governor King's visit (1794) to that of the Rev. S. Marsden, and the introduction of the first British settlers (1814)*—A period of twenty years. From about the time of Governor King's visit, ships engaged in the South Sea whale fishery occasionally called at New Zealand for refreshments. From time to time several New Zealanders entered as sailors in those ships; few of whom ever returned to their native country. Other ships too arrived in New Zealand for spars, and their number increased every year. From this date also the New Zealanders began to acquire firearms and ammunition, for which (and often of the most wretched kind) they paid almost fabulous prices. These fatal exchanges and gifts came to them from all quarters, and were, and long continued to be, of immensely greater value in their eyes than anything else. In 1805, Mr. Savage (an English Surgeon) visited them, and remained a short time at the Bay of Islands; taking with him to London, in 1806, the chief Moehanga; who was the first known New Zealander who visited England. In 1809, the sad tragedy of the murder of the captain and crew of the *Boyd*, nearly seventy in number, and the pillage and burning of the ship, occurred at Whangaroa; to which harbour the ship, on her return voyage from New South Wales to England, had put in for Kauri spars. For this savage murder the New Zealanders, as a people, again paid severely, many hundreds of all ages and both sexes being soon after slaughtered by the enraged united crews of several whalers; but their retribution, unfortunately, fell wholly (*a la Nouvelle Zelande!*) on a wrong tribe. Nearly the whole of this period was one of great loss and suffering to the New Zealanders, from the cupidity and lust of their European visitors; and to such a length did their maltreatment of them proceed, that at last the New South Wales Government was obliged to interfere by severe proclamations. In 1814, a few Missionary settlers (who had come out for that purpose some time before to New South Wales, under the auspices of the Church Missionary Society) arrived in New Zealand, and they settled at Rangihoua in the Bay of Islands. They brought with them several New Zealanders from Port Jackson, among whom was the notorious Hongi. Some time after the

Rev. S. Marsden paid his *first* visit to New Zealand, accompanied by his friend (the classical New Zealand historian) Mr. Nicholas, and remained in New Zealand nearly three months. From Mr. Marsden the natives received several useful things.

57. *From the introduction of the first British Settlers and Christianity (1814), to the Treaty of Waitangi (1840)*. This period of another quarter of a century was also a very important one for New Zealand. It is highly probable, that in no like period did the New Zealanders lose such a number of their population. From without (as before) the natives received much good, although not unfrequently dashed with some evil; often the fruits of their own sad doings. During this period the crews of several small trading vessels were treacherously murdered; among others were those of the *Agnes* at Tokomaru, of a whaler at Whanganui, and of the *Sydney Cove* farther south. For a long time the first settlers, although daily benefitting the natives, only held their ground with extreme difficulty, more than once being on the point of leaving. During this period the Wesleyan Society also commenced a mission in New Zealand. Such, however, was the dreadful state of things that their first [65] station at Whangaroa was obliged to be abandoned; shortly however to be re-formed and re-strengthened at Hokianga. Still, it was not until 1824, or ten years after the commencement of the Mission, that the first New Zealand convert was baptized. In the year 1819 the Church Mission took up a new station at Kerikeri, also in the Bay of Islands—then the head-quarters of the chief Hongi. In 1823 the Paihia station was formed; and here, soon after, the first schooner (of 52 feet keel) was built. In 1830 the Waimate station was formed; and in 1834 the Kaitaia, or northernmost one. In 1834–5, Mission stations were also formed at Matamata, and at Mangapouri in Waikato; at Tauranga in the Bay of Plenty; and at Rotorua. Soon after Mission stations were also formed in the Thames, and at Manakau, Entry Island, Otaki, and Whanganui, in Cook's Straits; and Poverty Bay, Uawa ("Tolaga"), and the East Cape, were all occupied in the years 1839–40. From all these spots, and some others, as so many centres, the natives around, for many miles, were regularly visited, and more or less brought under Christian instruction; receiving largely at the same time the manifold blessings of trade, commerce, and civilization. The printing press was introduced in 1834, and early in 1835, portions of the Holy Scriptures were first printed in New Zealand. In 1837 the first edition of the complete New Testament was printed at Paihia in 8vo, of which edition 5000 copies were printed, and soon entirely disposed of. During the five years ending 1840, many thousands of other books were printed in the New Zealand language and distributed. Within this quarter of a century several whalers and sealers had located themselves in different parts of New Zealand; especially in and near Cook's Straits, at Dusky Bay, and at Stewart's Island. But at the Bay of Islands was by far the largest number of settlers and white residents. If the first half of this period of twenty-five years was to the New Zealander the most deadly, the last quarter was certainly the most beneficial; whether in spiritual, intellectual, or outward wealth.

58. The period, *from the year 1840, to the present year (1865)*, another quarter of a century, might be very advantageously divided into two portions:—(1) to the end of the year 1852, up to which time the natives were generally progressing; and (2) from that to the present, during which they have been generally falling back:—but time will not permit of this. During the whole of this period

very much has been done for the New Zealander. New Mission stations have been formed in many places; the British Bible Society (and other societies) have given them immense donations of holy and religious books: the Colonial Government has done much for them in aiding them with water mills, ploughs, harrows, horses, seed, vessels, boats, clothing, etc., and with annual grants of money for schools. Many laws also have been made exclusively for their benefit. They have also received directly from the Government, for lands sold, some tens of thousands of pounds in gold; while the greatly increased value of their own reserves, within and near such alienated blocks, and the enormous consequent value of the large tracts still in their hands is almost beyond computation. The industrial stimulus they have received,—through the steady influx of Settlers, the formation of towns for all their supplies,—and the largely increasing demands for pigs, grain, potatoes, kauri-resin, and tanning barks,—are [66] also very great. A New Zealander of low rank, or even a slave, of the present day, is possessed of far more real wealth and comforts than a chief was twenty years ago, or than a whole tribe possessed thirty years back! And all *exotic*—through their increased intercourse with Europeans! Unfortunately, however, this period (like all the others) is marked by the shedding of their blood by their European friends. The present unfinished war being the third within the last twenty years, and in each case brought on and begun by themselves.

## *2. Domestic, or Internal.*

59. *From the time of their discovery by Cook (1769) to the end of that century.*—It is evident, that Cook found them much as Tasman left them,—ready to shed blood and delighting in doing it. Tasman, their discoverer, lost a boat's crew of six men through their sudden murderous attack. Cook, on several occasions was attacked by them;—sometimes, too, at sea, by their throwing stones at his ship! and smashing his cabin windows, which we can now well afford to laugh at;—and Furneaux (Cook's consort on his third voyage) lost, as we have seen, a whole boat's crew of “ten of the best men of the ship,” by the natives of Queen Charlotte's Sound, who, besides killing, ate them! These were the same tribe, or their neighbours, as those who had killed Tasman's crew. Their treacherous attack the year before on Marion and his crew in the Bay of Islands, in which they killed the commander and twenty-eight of his men, showed clearly their character towards Europeans, who were their benefactors; while the full information obtained from Cook, as clearly showed their character towards each other. The first few natives whom he took on board his ship by force at Poverty Bay (after killing four of their companions), begged hard *not* to be landed by him at a place in the Bay only a few miles from whence their canoe had come, lest they should be killed by their own neighbours! Speaking of them generally, he also says,—“If I had followed the advice of all our pretended friends, I might have extirpated the whole race; for the people of each hamlet, or village, by turns, applied to me to destroy the other.” Such being their known fierce character, discovery and other ships generally avoided them, and they were left to their old practice of destroying one another; until towards the end of the 18th Century; when, owing to the colonization of New South Wales, they were again visited by Europeans and brought a little into notice. During the last ten years of the century, vessels occasionally visited the coast; and in 1794, the two natives who had been taken to

Norfolk Island, were returned, with pigs, potatoes, maize, and other useful seeds, which they assiduously cultivated.

60. *From the year 1800 to the year 1840.*—The beginning of this century first found the New Zealanders visiting the European Colonies. Te Pahi, and his five sons, visited New South Wales; to which place the father again returned in 1808. In 1806, Moehanga visited London; whither, also, Matara, one of Te Pahi's sons (who had been to New South Wales), went in 1807, and Tuatara in 1809. Matara, while in England, was introduced to the Royal Family; and all returned to their native country laden with presents. In 1815, a chief named Maui visited England, followed, in 1818, by two others Tui and Titore. [67]

During these years the New Zealanders, having had the worse propensities of their native character inflamed, were active in seizing ships and murdering their crews; among which, the *Boyd* at Whangaroa, the *Agnes* at Tokomaru, a whaler at Whanganui, and the *Sydney Cove* at South-east Cape, may be noticed. Every ship approaching the coast had boarding-nets for protection. Love of murder and greed for plunder stirred up the coast natives generally to be on the watch for prey; while the Europeans sometimes retaliated by shooting, or encouraging the shooting of “a race of treacherous cannibals.” In 1820, the two Ngapuhi chiefs, Hongi and Waikato, also visited England, returning to New Zealand the following year. Hongi brought back with him a large amount of arms and ammunition, which enabled him and his allies to commit much wholesale slaughter. The Ngapuhi (or Bay of Islands) tribes, being well armed with muskets, revelled in destruction, slaying thousands,—at Kapaira, Manukau, Tamaki, the Thames, the interior of Waikato on to Rotorua, and even to Taranaki; and they also came in their canoes so far south as Ahuriri in Hawke's Bay, remorselessly destroying everywhere as they went. Not content with this, they subsequently turned their arms against themselves, and the tribes in their neighbourhood, where eventually Hongi himself received the wound which caused his death. The tribes further north were also fighting against each other; only ending in the Rarawa destroying the Aopouri, who were very numerous about the North Cape. Te Wherowhero at the head of his people was slaughtering for many years on the west coast, from Taranaki to Whanganui and Entry Island: Te Waharoa, and other chiefs, in the interior, and overland to Hawke's Bay: the Rotorua tribes in the Bay of Plenty; and Te Rauparaha exterminating in the neighbourhood of Cook's Straits, and along the east coast of the Middle Island! From 1822 to 1837, was truly a fearful period in New Zealand. Blood flowed like water. There can be little doubt, that the numbers killed by the New Zealanders, in their many sanguinary battles and surprises during this period of forty years; throughout all the New Zealand Islands,—together with those who also perished in consequence thereof, far exceeds 60,000 persons. Nothing is more erroneous than to suppose, that the introduction of firearms made their wars less sanguinary. Such a view is a very partial and mistaken one, and only made by those who have not had the opportunities of knowing the truth. During the last three years, however, of this period, there was very much less fighting than in any three previous years of the same; and missionaries and instruction, commerce and trade, became daily more valuable in their eyes. Several New Zealanders early became very good sawyers and carpenters; in 1836, a few made excellent window-sashes, dove-tailed boxes, and even cedar writing-desks; while (at least) one, whom the writer

knew, was, in 1835, the mate of a whaler, and was very much liked as an officer.

61. *From a.d. 1840 to the present time*, 1865.—During this quarter of a century the natives as a race have become nominally Christian. From 1840 to 1852, they eagerly sought for Christian and other instruction; often submitting to great privations and hardships in seeking after it. They also cultivated wheat, etc., very largely, increasing in quantity every year; although in 1845, and again in 1846, small portions of them were fighting against the Government. Hitherto, however, they have [68] been written of as they WERE; now they will have to be considered as they ARE. They have sought for and obtained everything the European could bring; but while they became rich in foreign, they became poor in domestic, wealth. Yearly more and more idle, and discontented, and careless in Christian observances, in schools and in morals. In 1854, they formed an anti-land-selling league, and soon after set up one of themselves as "King"! Their houses are now wretched huts; their canoes are almost entirely gone; their far-famed and useful nets they have ceased to make; and their cultivations, even of their own esteemed roots, are not of one-eighth the extent they formerly were. Their few children (baptized) are growing up in idleness, without being taught to read and write,—though mostly clothed and sometimes gaudily dressed in European costume; their drunkenness, idleness, and greediness, is painfully increasing; and many bad habits, formerly unknown, have been acquired, and, like the introduced weeds, grow luxuriantly. It cannot be denied that in many places, the savage has been spoiled, and the civilized man is not yet formed. And how to do this is a very difficult task; seeing, that from the very beginning, the New Zealanders have ever had the fatal quality, or fatality, of turning honey to gall—of drawing ill from every good thing. Many of them are now engaged in a murderous war against their best friends, the Colonists; in which war, began in 1860, upwards of 1000 have already perished.—While, to crown the whole, or to accelerate "the evil day" for their race, they have largely consented to abandon Christianity, and again to take up with a disgusting heathenish fanaticism in its stead!

62. It has been stated in this Essay, that the natives were formerly in great numbers; this is true, but it may need explanation. They were formerly in great numbers, (1) considering the area which they inhabited; and (2) comparing their former, with the present sparse, population. Whether they were numerically more when Tasman discovered them (1642) than they were when Cook first saw them (1769) is perhaps beyond our research. The writer, however, is inclined to believe, they were many more in number at the time of Tasman's visit, than they were at the time of Cook's—at least in the Middle Island. This, he thinks, may reasonably be inferred from the two following facts:—(1.) The natives coming off to attack Tasman's ships "in eight canoes;" and immediately after, on seeing him under sail, to follow him "with twenty-two more boats put off from the shore;"—these latter were double canoes. And (2) the men in them, (Tasman says,) "wore their hair tied up on the crown of the head, like the Japanese, *each having a large white feather stuck upright in it*,"—a sure sign they were chiefs or free men. Although Cook was, subsequently, several times at anchor in that very neighbourhood, he never saw there anything like such a number of natives, canoes, or "boats," nor could he obtain any traditionary information respecting Tasman's visit—a highly pregnant fact. Dr. Forster, who accompanied Cook on his second voyage,

supposed the population to be 100,000; *although he never saw any of the populous parts of the North Island*. Since when, down to 1840, it has been variously estimated, at, from 150,000 (by Nicholas in 1814) to 80,000. Forster's estimate is believed (by the writer) to have been too low; because Cook himself, in all his voyages, only saw the natives [69] who were inhabiting a portion of the sea-coast, and in particular those spots where he anchored. He saw *none* on the *whole* west coast of the North Island, which he therefore believed to be uninhabited! and, of course, none of the numerous tribes inhabiting the interior.—In 1834, the Missionaries had very good data for believing, that, from the Bay of Islands northwards, there were 7000 fighting men; are there more than one-seventh of that number to be found there now belonging to those tribes? In 1847–8, the writer of this Essay, collected, with much pains and care, an exact census of the natives living between Wairarapa and Ahuriri (Hawke's Bay) inclusive; going to every village, and seeing every individual native himself (and this two or three times); their number then amounted to 3704 persons, divided among forty-five *ascertained* tribes and sub-tribes. At present (leaving out the immigrant natives since arrived, from Manawatu, Waikato, Taupo, and the Bay of Islands, and also strangers), the population of the same district is under 2000,—or less than two-thirds of what they were seventeen years ago. Children are every year becoming fewer. Marriages are rarely fruitful. The seven principal Chiefs of Ahuriri (including Te Moananui, lately deceased), are all without children, with the exception of Te Hapuku; and of four of his sons married, three are still childless. Mr. Fenton, from an accurate census<sup>182</sup> of a portion of certain tribes in the Waikato district, has clearly shown, that the decrease among them in fourteen years (1844–1858), was at the rate of 19 per cent. Another table, also compiled by Mr. Fenton, showing the numbers of the natives of the Colony of New Zealand in 1858, gives the following:—

	MALES.	FEMALES.	TOTAL.
North Island	29,984	22,993	52,977
Middle Island	1,326	957	2,283
Stewart's Island and Ruapuke	110	90	200 <sup>183</sup>
Chatham Islands	247	263	510
	31,667	24,303	55,970

Unfortunately at the present time there is no means of accurately showing the difference on the whole of New Zealand; still this may be done for certain isolated districts.—

	MALES.	FEMALES.	TOTAL.
The Province of Nelson, (including Marlborough), had, in 1855	692	428	1120
The same, in 1864.	—	—	980
Decrease	—	—	140
The Provinces of Otago and Southland (including Ruapuke and Stewart's Island), had, in 1852.	382	327	709

182 WC: Blue Book, N.Z., 1859.

183 WC: Estimated.

Ditto, in 1864	217	179	396
Decrease	—	—	313
[70] The Chatham Islands, in 1859	247	263	510
Ditto, in 1861	—	—	413 <sup>184</sup>
Decrease	—	—	97
"Middle Whanganui," 1859	—	—	2210
"Central Whanganui," 1864	—	—	1417 <sup>185</sup>
Decrease	—	—	793
Rotorua, the Lakes, and Maketu, 1859	1210	1050	2260
Ditto, 1864	1023	742	1765
Decrease	—	—	495

With the exception of the Return for Otago and Southland, and also that for Chatham Islands, the foregoing can scarcely be depended on; owing to the vagueness of the Whanganui Return, the "incompleteness" of the Rotorua one, and the recent numbers in the Nelson one, being only estimated by Mr. Mackay. The Return for Otago and Southland (which appears to have been each time very accurately and satisfactorily taken,—in 1852 by Mr. Mantell, and in 1864 by Mr. Clarke), shows the greatest decrease! but here it should be noticed, that the last Return (1864) also shows 125 half-castes,—*i.e.* 72 males and 53 females; of which, some probably had not been included by Mr. Mantell in 1852. Mr. Seed accompanies his Chatham Islands Return with the following remarks:—"From this Return it will be seen the natives must be rapidly on the decline. At Kaingaroa and the adjacent villages, 34, nearly all adults, have died since 1856, and only 17 have been born in the same period. Several years ago the Bishop of New Zealand took a list similar to the one I obtained, and then the natives, I am told, numbered over a thousand."—It may reasonably be doubted whether the whole Maori population at present number 50,000. Appended is a table, copied, by the writer, from recent official documents in the House of Representatives,—showing the numbers of the natives, the principal tribes, tribal boundaries, and geographical position in the North Island; it can scarcely, however, be wholly relied on for perfect accuracy, yet, in all its main features is correct.

63. The Causes of their very rapid Decrease might here be properly shown, but such can only be done very briefly. The writer believes, that *many* separate causes have all combined to bring about this sad state of things; not a few of which are nearly or wholly unknown to, or overlooked by, those who have hitherto written on Maori statistics.—(1.) Their own prevailing strong propensities, implacability, and revenge; hence their love of war, murder, and pillage;—in their exterminating wars, mercy was never shown, the helpless and (to the victors) valueless were struck down and slain in heaps. Besides the actual slaughter, they were always wearing themselves out, in preparing arms and building [71] forts on high hills; or, more lately, in working day and night to obtain flax, etc., wherewith to purchase firearms, and in building new forts on low lands. In this half

harrassed state many children and weak persons perished through want of proper rest, care, and food. (2.) The increasing number of small tribes also increased their feuds. (3.) Their immorality with foreigners, especially shipping. (4.) Consequent infanticide (before birth, foeticide), and sterility, to an extent which no writer has yet correctly conceived. (5.) Sorcery. (6.) New diseases, especially epidemics, including the *rewharewha* of 45 years back, the measles, hooping-cough, influenza, etc. (7.) The unlimited use of tobacco, and its many substitutes, *and its many attendant evils*,—especially by the young and females. (8.) Carelessness,—as to regular food, and wet *thin* clothing, bringing on early disease and death. (9.) Their exposing themselves in serving and working hard for others; whether in whale ships at sea, whalers on shore, missionaries, settlers, etc. (10.) Their laboring beyond their strength in their greed after European goods, to the continual neglect of themselves;—in scraping flax, and in raising potatoes, wheat, etc., for sale to Europeans, and their bringing the same, with much labour, difficulty, and exposure, to market. (11.) Their selling all their best, including all their tame pigs, and keeping only the refuse food for themselves, being stimulated thereto by the price given. (12.) The introduction and rapid increase of the horse (strange as it may appear) has certainly been very injurious to the native, through their abuse of that noble animal; it proving a great means of calling them constantly, away from their homes and cultivations, especially the young and strong (thereby leaving the work to be done by the old and weak), tending to habits of idleness, wandering, and dissipation, and of consequent exposure to hunger and wet in travelling about; and of want, etc., at home. (13.) Many minor causes attendant upon their transition state and the incoming of the settler,—such as, the abandoning of their own rough and dry flax garments for the thin European ones,—frequent exposure to bad weather, sleeping in wet garments, and often in cold damp houses,—going in crowds to a distance to large gatherings (whether of their own, or of the Europeans—Mission or Government), to see new arrivals, or things, etc., etc., and there badly provided for, and always much suffering in, and after, returning to their homes. The writer has long been convinced, that the amount of mortality arising from the causes mentioned under heads 7–13 has been truly frightful—stealthy, unnoticed, and slow, but ever sure.

64. Apart from their numerical decrease, is the great Decline of their Power and Influence,—whether we consider the race, or a tribe, a family, or a single chief;—and that not only among Europeans, but also among themselves. This has, in a measure, been caused by their decrease in numbers, but not wholly or mainly so. The sudden termination of polygamy, slavery, and the taboo (*tapu*) system, without any things to replace the last two, has been the chief causes of their decline as *a people in status* and influence. Had some comprehensive mind early arrived in New Zealand, to point out to the *first* Missionaries the sure consequence of the utter and sudden removal of what then upheld the tribes and nation,—unless renewed with something equally strong and equally suitable,—more cautious and better adapted means for preserving [72] them might have been used. However distasteful these three things might be to an European and Christian, they were the life of the New Zealander. They were perhaps the three rotten hoops round the old cask, but they kept the cask together. Slavery (though an ugly word) might have been ameliorated in New Zealand, where its form was mild compared with what it was in ancient Rome,—even as it was both there and in Asia Minor by

184 WC: Government Gazette, January 14, 1862. Mr. W. Seed also gives, "Maories, 413, of whom 24 are children; Morioris, 160; Half-castes, 17."

185 WC: Kindly furnished by Hon: Mr. Mantell, Native Minister: the Rotorua Return is officially said to be "incomplete."

Paul. Polygamy might have been far better dealt with, for the time, according to the lenient dealings of God with the Jewish fathers, and with New Testament teaching, than according to ecclesiastical dogmas. And much of the taboo might have been softened and altered, and borne with too, for a time, until a better, and not altogether distinct, scheme, suited to uphold and expand the moral character of the neophyte Maori Christian, had been got ready. An Eastern sage has said, "In time the mulberry leaf becomes satin." The writer of this Essay has seen a chief,—a lineal descendant of ancient kings,—whose nod yesterday was life or death, who had several wives, many fine children, and a number of slaves; whose home was full of merry laughing faces, food, and hospitality;—he has seen him afterwards a baptized man, without servants or helpers, with little food and less clothing, ashamed and vexed at not having the means to be hospitable; with one weak wife (soon brought to be so through extra daily labour), and three children, for whom he himself had daily to work very hard, and yet could not procure for them the fish and birds and pork of former days;—while any one of his late slaves was far better off than he. The writer has seen with secret grief that man (and several such) more than once, and he has asked Christianity, "Was there really a necessity for all this?" Very likely, had those notable Maori kings been only gradually altered, and not so suddenly and rudely abolished; and had fitting *short* Christian services obtained instead of wearisome long ones, the principal chiefs, heads of tribes, would have kept their *status*,—order would have prevailed,—the rising generation would have both known and kept their proper place,—the decrease in their numbers would have been considerably less,—they would have confidence in the Government, missionaries, and settlers, instead of suspicion;—in all probability there would have been now no war with the Government,—and the degrading fanaticism which now obtains would never have found support. *Fuit ilium!* Cook found the New Zealanders healthy, happy, and contented in the midst of all their wars and poverty.—*Are they so now?*

## § VI.—THE FUTURE.

65. Seeing but very little of a cheering nature in the late past and present of the New Zealanders, the mind ever hopeful, naturally looks forward to the future. But where is the seer who can truly decipher the mysterious signs of the times? much less predict the state and position of the Maori race at the end of another period of twenty years! But why say twenty years? Less than five years more will complete the century of years since Cook first saw them; how will the last year of that century close upon them? This is difficult to answer. Not merely because of the present sad state of the native mind, and of the [73] dismal fatality hitherto attending them; but, because of the crotchety individuals among the colonists themselves. Men, doubtless, who are well-wishers to the Maories, but who (through their own cloistered, high-flying, or crotchety views, and want of really understanding the native, and what is good and suitable for him,) have done them more injury (unwittingly) than their bitterest foes. This is the really great obstacle in the way of truly benefitting the Maori; and judging from the past, it appears to be all but hopelessly insurmountable. The following, however, (or something very like it) is believed by the writer, to be really needful, in order to a better state of things, and to the conservation of the Maori race.—

### 1. *Preparatory.*

1. The present war must be ended, and ended *well*; the sooner the better.
2. "Ended well": is to have done so leaving a real salutary impression on the native; that come what will, he will never go to war again with the Government.
3. Their work done, the military must be all withdrawn from New Zealand.
4. The suspicions of the native must be removed; this will be a work of time.
5. The Colonial Government must have the Government of the Maories wholly in their own hands.
6. Individuals, especially those in authority, must for the common good, at once and for ever cease their fruitlessly teasing the native with their fine-spun theories, and their secretly writing to powers and parties at home against the New Zealand Government and the colonists: or, if not, the Government of the day *must* gird up their loins to the task, and put such persons down with a strong hand; and, if necessary, make a public example of them. Above all, pensionaries on the public purse must be taught a useful lesson.
7. All Bishops and other Ecclesiastics, should cheerfully and zealously, openly and privately support the Government; remembering Paul's teaching,—"*The powers that be, are ordained of God.*"
8. The Governor, the Government, and the various Ecclesiastical bodies, and settlers generally, must unite, and be as one in these matters: *the Maories should be able to see this.*

### 2. *Real: Active.*

9. The present mischievous and costly system of "Civil Commissioners" must be immediately abandoned: the Maories well know it to be an office of *espionage*.
10. The present objectionable system of bribing Maories (derided among themselves) with gifts and with salaries for work never performed, must be wholly thrown aside. It is directly opposed to the genius of the people, as it is to their advancement, and is the cause of much bad feeling and jealousy. Until this is done their suspicions and distrust will never be really less. [74]
11. One strict, equal, but lenient law for them as for Europeans, in the *one* court in all European districts.
12. Good, useful, zealous, loving men, to be stationed as Resident Magistrates in purely native districts; men, whom the natives could love, obey, respect, and work with. Such to be obtained from England, if not to be found in the Colony.
13. Such Magistrates to *itinerate* throughout their districts; (say) 4 times a year, to hold their simple courts at the principal villages of the sub-tribes; to act in co-operation with the head, or heads, of the tribe. (Not, as now, with assuming inferior chiefs and pert loquacious youngsters.) And to get reparation for almost all Maori offences, by fines judiciously inflicted. Such a mode of proceeding falls in with the genius of the people, is just and Christian, and is not costly. Their errors among themselves, should be dealt gently with; a spirit of love and forgiveness (alas! foreign to our laws) should be inculcated. Insult not their prejudices. {Note 38}
14. The authority of the oldest head chief of a tribe, or sub-tribe, should be firmly but steadily supported.

NATIVE POPULATION, North Island of New Zealand, with Names of Tribes and Boundaries.—(Corrected to 1863.)

<b>Name of Tribe.</b>	<b>No.</b>	<b>Area in Acres.</b>	<b>Tribal Boundaries, Geographical Position, &amp;c., &amp;c.</b>
1 RARAWA AND AOPOURI	1858	587,680	North of Hokianga, W.C., and of Mount Camel, E.C.
2 NGAPUHI	5693	2,195,765	North of 36°, W.C., and of Cape Rodney, E.C.
3 NGATIWHATUA AND URIOHAU	550	1,276,978	North of Manakau, W.C., and of Auckland to Cape Rodney.
4 NGATITAI	77	134,951	South of Auckland, and North of Firth of the Thames.
5 NGATIPAOA	2060	1,266,977	Head of the Thames, across to Katikati, E.C., thence north to Cape Colville.
6 NGAITERANGI	957	396,498	From Katikati to Maketu, E.C., and extending 40 miles inland.
7 NGATIWHAKAAUE	2367	473,240	Maketu, to Waitahanui river, E.C., and inland to the Lakes.
8 NGATIRAKAWA	490	2,411,357	Nearly central; at Arowhena, nearly where 38°S. lat. bisects 176° long., and for 20 miles round.
9 WAIKATO & NGATIMANIAPOTO	9971		North of Mokau to Manakau, W.C., and about half across the island at 38°S.
10 NGATIAWA, E.C.	1864	1,456,077	Waitahanui river to Ohiwa, E.C., and inland to Mount Edgcombe.
11 NGATIAWA, W.C.	1300	591,425	From 38°50' S., W.C., to the Sugar loaves, and inland about 40 miles, including Mount Egmont.
12 NGATIAWA, Waikanae	385		A few miles around Waikanae, W.C., and extending inland to the mountain ranges
13 NGATIAWA, Wellington	115	194,908	Near Wellington, extending E. to Rimutaka range and Palliser Bay.
14 TE WHAKATOHEA	1730	361,870	S. of Ohiwa, Bay of Plenty, for 30 miles, and extending inland about 50 miles.
15 NGATIPOURI	4365	1,571,760	Cape Runaway, E.C., to Table Cape, and extending inland about 50 miles.
16 NGATITUWHARETOA	1850	2,784,000	Centre of island, including Taupo lakes and mountains, from 38° to 39°30' S.
17 NGATITAMA	90	917,947	Between Mokau, W.C., and 39°S., extending inland about 50 miles.
18 TARANAKI	690	276,969	Near Taranaki, W.C., from Sugar loaves to about 39°30' S.
19 NGATIRUANUI	1330	1,224,491	From about 39°30' S., W.C., to near Waitotara, and extending inland 60 miles.
20 NGARAURU	243	183,249	From Waitotara to near Whanganui, W.C., and extending inland about 40 miles.
21 NGATIHAU	3360	724,699	From a few miles N. of Whanganui river to Whanganui river, W.C., extending inland about 60 miles.
22 NGATIRAKAWA	1203	2,069,161	From Whanganui river to a few miles S. of Otaki, and extending to mountain ranges.
23 NGATIAPA	505		
24 MUAUPOKO	125		
25 RANGITANE	345		
26 NGATITOA	168		Included in No. 13.
27 TARANAKI, Wellington	205	201,161	East of Wellington to Palliser Bay and Wairarapa.
28 NGATIKAHUNGUNU	4839	5,572,989	From Table Cape to Palliser Bay, extending 50 miles inland, generally to the mountains.
29 TE UREWERA	400 <sup>186</sup>		Interior: a radius of about 40 miles around 38°20' S. and 177° longitude.
30 WHANAUPANUI			From Cape Runaway, Bay of Plenty, E.C., to 40 miles N., coast line, and extending inland about 40 miles.

NOTE—W.C. means West Coast, and E.C. East Coast.

186 WC: Estimate in 1858.

15. Maori views—modes of reparation, fines, forfeitures, semi-banishment from the village and tribe, etc., etc., should be supported, and acted on, where proper and just;—and not our unsuited Draconian laws. A celebrated author, says—“Humanity is one of the best fruits of refinement. It is only with increasing civilization, that the legislator studies to economise human suffering, even for the guilty; to devise penalties, not so much by way of punishment for the past, as of reformation for the future.”<sup>187</sup>

16. Young persons, of both sexes, should on no account be allowed to be enticed away from their tribe, by Europeans; on their being so enticed away, and complaint made, the authorities should interfere, and cause them to be restored, and the abductors severely punished.

17. Good, useful, plain, married schoolmasters should be stationed in the various Maori districts; such to be had also from home, through the various Christian and Philanthropic Societies.

18. Zealous, loving, self-denying European Ministers to be placed among them; men contented to serve their Great Master in humility. Also to be had from home through the various Christian Societies. No hireling, no mere observer of rites and ceremonies. The Maories have had enough of muttered charms and incantations. The young New Zealand Samson is not to be surely bound with green withes.

19. In populous, wholly Maori districts, a religious physician, or surgeon should be stationed; to be also obtained from home.

20. Anglo-Maori books should be written and printed for their use; and a really useful Anglo-Maori weekly paper should be established and circulated.

21. Once a year the Governor should meet the assembled chiefs at some principal Maori place to be fixed by them; and once in two years they should be assembled at the Seat of Government to see the Governor.

22. The sons of the head chiefs, and of others, who may show an [75] aptness to learn, should be sent to England to be educated at Government expense; but they should not be foolishly and flatteringly educated there as “gentlemen,” rather in a plain sound Christian way; they should also be taught *useful* arts and trades. Remember Peter the Great.

23. Occasionally one or more of the chiefs of the highest rank and most deserving should be taken to England, to see the sons of the chiefs there being educated, and to be presented to her Majesty.

24. European gentlemen visiting Maori districts and villages, should be careful to demean themselves as such. They should act there as they would in a village at home, or on the Continent.

25. Spirituous liquors should be kept out of all purely Maori districts and villages.

Cook found the Maories happy:—are they happy now? LET US ENDEAVOUR TO MAKE THEM SO.

## CONCLUSION.

66. The writer of this Essay has no hesitation in expressing his settled conviction; that, (apart from any spiritual Christian benefit,—a subject he has generally throughout this Essay carefully avoided,) taking all things into

consideration, and viewing the matter from a philanthropic as well as a New Zealand point of view,—it would have been far better for the New Zealanders *as a people* if they had never seen an European.

—“De duro est ultima ferro.—

—Fugere pudor, verumque, fidesque;

In quorum, subiere locum fraudesque dolique,

Insidiæque, et vis, et amor sceleratus habendi.”

OVID.<sup>188</sup>

## NOTES<sup>189</sup>

**Note 1, Par. 5.** “These people enjoy perfect and uninterrupted health; in all our visits to their towns, where yg. & old, m. & w., crowded about us, we never saw a single person who appd. to have any bodily complaint, nor among their numbers that we have seen, naked, did we once perceive the slightest eruption on the skin, or any marks that an eruption had left behind.... A further proof that hum. nat. is here untainted w. disease, is the gt. no. of old m. that we saw, many of whom by the look of their hair & teeth, appd. to be v. ancient, yet none of them were decrepid, & though not equal to the young in muscular strength, were not a whit behind them in cheerfulness & vivacity.”<sup>190</sup> On 2 occasions it has fallen to the lot of the writer to Baptize, at one time, 4 lineal descendants, on anr. occasion the aged great-grandfather was healthy, active and in full possession of hair, teeth & memory.—

**Note 2, Par. 7.** as a favor. instance, the follg. may be mentd. 3 male children were born at one time in 1844 to a couple who lived at Waipureku very near the writer: these all reached maturity.

**Note 3, Par. 9.** This stubborn disease has been in a few cases treated successfully by the writer, admg. internally Arsenic or Potass. Iodide, in Sol., & using externally washes of Sulph. Zinc. Soda Bicarb, or Ung Iodid. & poultice of fresh seaweed, & at the same time a gen. diet. The Natives invy. assert this disease to havg. Been formerly unknown & Cook’s statement (noted in Notes) intimates as much.

**Note 4, Par. 9.** The writer once saw (1835) a wretched case of a young m. who had lost one hand & forearm, & the fingers of the other hand, & also one foot at the ankle, & some of the toes of the other foot, from this fell disease: he was naked & crawling on all fours thro the clayey mud, with his poor stumps sore and bleeding. He said that he felt

188 WC: Hard steel succeeded then;

And stubborn as the metal were the men.

Truth, modesty, and shame the world forsook;

Fraud, avarice, and force, their places took.

(Ovid: Metamorphoses)

189 As explained in the introduction, the notes to Colenso’s essay were not published, and the only known copy is among the Coupland Harding papers in the State Library of New South Wales (Mitchell Library), Sydney. It is an early draft of the paper, full of alterations, abbreviations, memos from Colenso to himself and partial quotations. It is a rough scrawl, difficult to read, and has been bound so that some words are obscured by the binding. Some notes appear to be complete, others simply outlines. The material printed here is as true a copy as I can make from the Mitchell Library manuscript, apart from notes 21, 22 and 29 which remain with, and are copied from the final manuscript copy sent to Dunedin, now in the Alexander Turnbull Library. I have expanded partial into full quotations from the available literature, but have left Colenso’s word abbreviations as they are.

190 WC: Cook’s V. v.iii pp 56, 57.

little or no pain; as his smiling countenance indicated. I saw at Taika (Whangarei) in Decr. 1839, two sad cases of Tuwhenua: 1, a little lad named Wairepo, fingers, toes & part of feet gone! also parts of elbow & knees. Yet he cod. read & appd. to be thoughtful (this may be a bias of story!) 2, another lad, nearly as bad, also there, name Taukawau.<sup>191</sup>

**Note 5, Par. 9.** In one summer, two yg. natives, living near the writer at H. Bay, lost their lives thro sun-stroke. They were both travelling at diff. times over raised dry stony beaches, & both wore black glazed hats.

**Note 6, Par. 10.** "We saw among them (the N.Zrs.) one instance of cleanliness in wh. they exceeded our friends at Otaheite, & of wh. perhaps there is no ex. in any other Indian nation. Every house, or every little cluster of 3 or 4 houses, was furnished with a privy, so that the ground was every where clean. The offals of their food, & other litter, were also piled up in regular dunghills."<sup>192</sup> —(A whole page here follows, in wh. Cook contrasts them with the Spaniards, and particularly w. the inhabs. of Madrid, awarding the palm for cleanliness in this respect to the N.Zrs.) Notwithstg. its length, the writer cannot refrain from adding another val. testimony highly characteristic of the N.Zers as they say;— & also, as indicating their horror at the dirty habits of many of the Europeans.<sup>193</sup>

**Note 7, Par. 15.** The Ngati Maru (Thames) Tribe used their flaming darts successfully in their attack on the stronghold of Tapatahi near Waiau, S. of the E. Cape. This first landing site on the abrupt precipitous end of a high hilly range, made impregnable by nat., & containing several hundred natives was, after a long siege taken, through being fired by flaming combustibles slung, and thrown, into it. On this day there was a very great slaughter. Many threw themselves over the precipice, only a very few escaping w. their lives.

**Note 8, Par. 15.** Cook says "We had given the p. at Tolaga a piece of glass, and in a short time they found means to drill a hole through it, in order to hang it round the neck as an ornament by a thread, and we imagine the tool must have been a p. of Jasper."<sup>194</sup>

**Note 9, Par. 18.** Rutherford, an intelligent Englishman, captured by the M. (who was tattooed & lived many y. among them,—a.d. ?1816–1826,) says— "My eldest wife's name was Hau, & that of my youngest, Peka. They were both handsome, mild & good tempered. When away for any length of time, I used to take Peka along w. me, & leave Hau at home. The chief's wives in N.Z. are never jealous of ea. other, but live together in great harmony; the only distinction among them being that the oldest is always consid. the head wife."<sup>195</sup>

**Note 10, Par. 19.** As an instance of their acute & still natural views of this matter, the following may be mentioned.— About the time the news reached N.Z. of the birth of the P. of Wales, the N.Zers. wished to know his rank & whether he wod. not be of much higher rank than Her M. the Queen; on being ansd. in the neg. they seemed

greatly perplexed, & said by our so doing, it was clear the Father really had no rank; "for" sd. he, "see 2 rivers" (naming them) "when they unite, the stream is therefore bigger, &c.—so it must be w. the son of the Q. & P. Albert—he must be of greater rank than either f. or m., inasmuch as he inherits rank, titles, power & infl. of both."

**Note 11, Par. 19.** Several yrs. ago the 2<sup>nd</sup> son of one of the prin. chfs. of H.B. (a wild youth) comd. adultery w. one of his father's wives. On its being suspected & first whispered among the wom. of the village the unhappy wom. strangled herself. The father being absent from home, a messgr. was immy. despatched to him. On his return to his vill., he judiciously sent word to his offg. son to leave it (for a time), & lest he might do that in his anger he shod. after be sorry for, to go & reside at anor. village with some of their relatives:—the eldest son (& uterine bror. to the offr.) hearing this, viewed it as "a lowering of their dignity," inasmuch as they were all now residing on their (the son's) land derived from their mother (a great lady, deceased,) therefore took his bror. into his own house, & sent word to their father, that he must leave! and nearly all the natives of the tribe sided w. him. In this emergency as to the land the father sent to the writer, who (having infl. w. both the sons) succeeded in getting the offending one to leave the village, and go to the one pointed out. In all probability, had this not been quickly done, blood wod. have been shed.

**Note 12, Par. 19.** "But in his social and domestic relations, where the full force of the human heart is allowed to prevail, no man can be more amiable than the New Zealander. Seated in the midst of his family or friends, he appears gentle, conciliating and affectionate; and, far from exercising a severe controul over his dependants, he behaves towards them on all occasions with affability and mildness, abject and insignificant as they are held in his estimation. In this respect the New Zealand chiefs are particularly distinguished from the higher classes on the Tonga Islands, who treat the multitude, in many instances, with wanton cruelty, as we have seen in the case of Finow, the king of these islands, who ordered the cookee or plebeian to be shot, without the least provocation that could justify such an act. Neither the akeeeks, nor the subordinate chiefs of New Zealand, are ever known to imbrue their hands in this unwarrantable manner in the blood of their followers; and whenever the latter transgress, they usually punish them with a spirit of lenity and moderation, consigning them to death only for crimes which they consider heinous."<sup>196</sup>

**Note 13, Par 20.** Two striking instances respecting this may be here noticed: in the year 1847, the writer printed (at his private press) for Te Hapuku, one of the prin. Chfs. of H. Bay, the Native statement res. to his title to certain land, wh. was , & had been for years, resided on by anor. subtribe, who now claimed the ownership. That statement went back sevl. generations, deducing his title from an anct. gift made by one individual, an ancestor of the resident tribe, & this claim was subsy. allowed. Again: this present year (1865) a similar case (also contested according to "near lights") has been fully heard before the Suptd. of the Prove., I printed in the N.Z. tongue) in the Provl. Maori newspaper for the natives' information.

**Note 14, Par. 21.** In 1835 the writer was acqd. w. a ven. old Chief, of the Nga Puhi tribes named Te Aka who gave the

191 WC: From "Journal-entry" in sm. pocket book made & bound by me in brown calf.

192 WC: Cook's V. vol.ii p.814.

193 WC: Nicholas, vol.I, pp. 354–355.

194 WC: Cook's V. vol.iii, p.60

195 WC: "The N.Zers." Liby. of Entertg. Knowledge p.197.

196 WC: Nicholas "The N.Zers." v. ii, p.306.

followg. narration:—He had been severely wounded in a battle, w. a spear wh. had entd. his side & the head of wh. had broken off within his lower abdomen. Of course he suffd. dreadful pains; several “priests” successively tried their skill at charming, but to no effect; He full knew, that the spear head was within him, as it cou. not be felt. At length a “priestess”—of great power was obtd. from a distance, who having daily examined the wound, chief, went to work. By her directions, he was shut up in a dark house, &, on the 2<sup>nd</sup> day of her charming, there suddenly fell before him a spearshead, wh. she sd. she had charmed out. The poor m. was so overjoyed, that his pains instantly lessened, & he believed. She got her rewards and went home. The pains howr. soon returned, & remained for a long while; his friends now laughing at him for not having more courage; as he was “all right” & woud. soon be well. For a long time he durst not disbelieve the “priestess”—although his thoughts were occasionally hardened. When after a while the spear head shifted, worked outwards, & was cut out, that was the means of his perceiving the trick wh. had been played upon him by her; & of his aftds. Becoming a Xn. To hear his long and artless statement of his joy & impious doubts, & fears, & his trying to suppress his natural feelings was both interesting & instructive.

**Note 15, Par. 21.** The writer well recollects having seen at Whangarei (Bream Bay) in the years 1836–9, a fine healthy youth of about 12 yrs. of age who had been recoverd. from poisoning by karaka kernels. He, howr., had not been properly attended to,—in the tying of his limbs in their right position, while under the influence of the poison, there, & he was now a curious spectacle! reminding me of the instrument called a caltrop more than anything else.—one leg was curved up behind to his behind, & the other bent up in front, the foot outwards; one arm inclined behind his shoulder, & the other slightly back & then forwards; and all as to muscles inflexibly rigid. He cou. do nothing, not even turn himself, nor drive off the sandflies, which were there in legions from feasting on his naked body, nor scratch himself when itching; nor put any food to his mouth. When not asleep he was laughing, often seeming the merriest of the village. I frequently sat by his side during my visits to talk w. him and drive away the tormenting sandflies, which he would beg me to do. His skin was remarkably fine & pretty—ruddy, I might call it,—being wholly without any eruption blemish or scar. His teeth pearly white and voice and laugh regularly strong and ringing. His eyes were very brilliant and of an intelligent cast, but in conversing w. him I always thought his intellect was not so sharp (or developed) as ordinarily that of Maori boys of his age. To me his was a pre-eminently sad case; as in the event of his losing his parents (and they were now middle aged) he would be most miserably off; yet it exhibited strongly two eminent natural and beautiful traits of the old N.Z. character, viz., the love of their offspring and patience under heavy and constant affliction and trial. He was the only child of his parents; who fortunately for him were both alive, and took great care of him, and shifted his position very often by day & night, as, from his body not evenly resting, he could not possibly remain long in one posn. If not eating he greatly enjoyed being placed so as he could see the children at play; in wh. he always encouraged them by his voice.

**Note 16, Par. 25.** As the N.Z. dog has long been quite extinct; (the writer having seen only two, & those nearly 30

years ago;) the following is taken from a rare book,<sup>197</sup> as being the best account of this now unknown animal:—“The dogs of the South Sea isles are of a singular race: they most resemble the common cur, but have a prodigious large head, remarkably little eyes, prick-ears, long hair and a short bushy tail. They are chiefly fed with fruit at the Society Isles; but in the low isles and New Zealand, where they are the only domestic animals, they live upon fish. They are exceedingly stupid, and seldom or never bark, only howl now and then; have the sense of smelling in a very low degree, and are lazy beyond measure: they are kept by the natives chiefly for the sake of their flesh, of which they are fond, preferring it to pork; they also make use of their hair, in various ornaments, especially to fringe their breast plates in the Society Isles, and to face or even line the whole garment in New Zealand”.<sup>198</sup> F. makes a slight mistake here, but it is easily accounted for. He says “to line their garments.”—Not so, howr., as such was always the outside,—but in going off to Cook’s ship, the wearers would reverse them to keep the hair from the salt spray.

**Note 17, Par. 27 §1.**<sup>199</sup> Jn. Forster says— “The music of the N.Zers. is far supr. in var. to that of the Socy. & Fy. Islands; and if any nation of the South Sea comes in competition with them in this respect I should apprehend it to be that of Tanna. The same intelligent friend who favoured me with a specimen of the songs at Tonga-Tabboo, has likewise obligingly communicated to me another (sp.) of the New Zealand music (given) which will be sufft. to give an idea of the taste of the people.”

See music & copy.

“Of this tune they continue to sing the two first bars till the words of their song are at an end, and then they close with the last. Sometimes they also sing an underpart, which is a third lower, except the two last notes, which are unisons.”

“... notice (was also taken) of a kind of dirge-like melancholy song, relating to the death of Tupaya. This song was chiefly practised by the inhabitants round Tolaga Bay, on the northern island, where the people seem to have had a high regard for that Taheitian. There is an extreme simplicity in the words, though they seem to be metrically arranged in such a manner, as to express the feelings of the mourners, by their slow movement.”

Copy music

Ake, mate awhe Tupaeia.

“They descend at the close from c to the octave below in a fall, resembling the sliding of a finger along the finger-board on the violin. I shall now dismiss this subject with the following observation, that the taste for music of the New Zealanders, and their superiority in this respect to other nations in the South Seas, are to me stronger proofs, in favour of their heart, than all the idle eloquence of the philosophers in their cabinets can invalidate. They have

197 WC: Forster’s “Observations,” p.189.

198 WC: See p.200, idem.

199 WC: Forster’s Voy. round the world, v.ii. 476-8. [This material is again covered by Colenso in the appendix to his 1878 Contributions towards a better Knowledge of the Maori Race. Trans. N.Z.I. 11: 77–106 (see below). It is repeated at greater length in Andersen JC 1923. An introduction to Maori music. Trans. N.Z. Inst. 54: 743.]

violent passions; but it would be absurd to assert that these only lead them to inhuman excesses."

The appx. to Sir G. Grey's "Polyn. Mythology," contains a learned paper on the nat. songs of N.I. by a comp. musician Mr. J.H. Davies Esq.—with specimens of the music of the N.Zers.

**Note 18, Par. 27 §1.** Cook says, "The N.Zers. have an adroitness, and manual dexterity in an uncomm. degree, wh. are discovd. in whatever they do. I have seen the strokes of 15 paddles on a side in one of their canoes made with incred. quickness, & yet w. such minute exactness of time, that all the rowers seemed to be actuated by one comm. soul."<sup>200</sup> — "In the motions of the war dance, however horrid, there is a strength, firmness, and agility, which we could not but behold with admiration; and in their song they keep time with such exactness, that I have often heard above an hundred paddles struck against the sides of their boats at once, so as to produce but a single sound, at the divisions of their music."<sup>201</sup>

**Note 19, Par 28.** "Having come to an anchor, de Surville, the day follg. went on shore & was rec'd very hospitably by the Natives.... After this they shewed every dispn. to treat their visitors as friends & supplied them abundantly w. such refresh. as they wanted.... During the gale (wh. shortly folld.) a boat, in which were the invalids of de Surville's crew, in attempting to make from the shore to the ship, was very nearly lost; but contrived at last to get into a small creek, which hence received the name of *Refuge Cove*. As soon as they had arrived there, the sick men were sent on shore; and nothing could exceed the kindness with which they were received and treated, during their stay, by Naginoui, the chief or lord of the adjoining village. They remained in his care, having his house for their home, and feeding upon his bounty (for he would accept of no remuneration for the refreshments with which he supplied them), till the storm was over; and then, on the 29<sup>th</sup>, they got back in safety to the ship."<sup>202</sup>

"During a stay of ten months in New Zealand a constant intercourse took place between the people of the ship and the natives; and that distant excursions were made by different individuals into the interior and along the coast, without any unfortunate consequences. From personal experience, it is but justice to the New Zealanders to add a particular testimony to their character. Two officers of the detachment of the 84th regiment being provided with a private boat, rowed by two soldiers, and having, as already observed, fewer avocations to detain them on board than the generality of persons belonging to the Dromedary, went on various shooting or other excursions into the country, which brought them in daily contact with the natives, whose assistance was always at their command. When badness of weather or other circumstances obliged us to seek food or shelter among them, an appeal to their hospitality was never made in vain. Perpetually at their mercy, if they chose to misuse us, not a single insult was ever offered to one of our little party; the most trifling article was never stolen, and we often experienced acts of generosity and disinterestedness

from them which would have done honour to a civilised people."<sup>203</sup>—

**Note 20, Par. 28.** "in the manner of rearing children, and in the remarkable tenderness and solicitous care bestowed upon them by the parents, no partiality on account of sex was in any instance observed."

"The infant is no sooner weaned than a considerable part of its care devolves upon the father: it is taught to twine its arms round his neck, and in this posture it remains the whole day, asleep or awake, suspended upon his shoulders, and covered with his mat; and in his longest journeys, or his most laborious occupations, it is his constant companion."<sup>204</sup>

**Note 21, Par. 29.** Cook says:—"I have observed that our friends in the South Seas had not even the idea of indecency, with respect to any object, or any action; but this was by no means the case with the inhabitants of New Zealand, in whose carriage and conversation there was as much modest reserve and decorum with respect to actions, which yet in their opinion were not criminal, as are to be found among the politest nations in Europe.... The women wore their lower garment always bound fast around them, except when they went into the water to catch lobsters, and then they took great care not to be seen by the men. Some of us happening one day to land upon a small island in Tolaga Bay, we surprised several of them at this employment, and the chaste Diana with her nymphs, could not have discovered more confusion and distress at the sight of Actaon, than these women expressed upon our approach. Some of them hid themselves among the rocks, and the rest crouched down in the sea till they had made themselves a girdle and apron of such weeds as they could find, and when they came out, even with this veil, we could perceive that their modesty suffered much pain by our presence."<sup>205</sup> "Among the men, nudity at any time, or on any occasion, is not considered indecorous; but a dereliction of feminine modesty by the women is seldom known."<sup>206</sup>

The writer recollects a middle-aged chief, several years back, sitting down on a low fence dressed in a large loose mat, at his work carving a small image, when suddenly he fell to the ground in a fit,—(to which,—epilepsy—he was subject,) on his recovering, the first question he asked the writer, was, whether in his fall he had exposed himself to the other natives of the place, mostly women; and although he was assured he had not, he burst into tears, crying bitterly for a long while, and would not be comforted.—

Dr. Forster says:—"The principles of chastity we found in many families, exceedingly well understood and practised, to the great satisfaction of all those Europeans in whose hearts lewdness had not yet effaced every notion of purity and morality. I have with transport seen many fine women, who with a modesty mixed with politeness, which would have graced the most exalted character of our polite nations, refuse the greatest and most tempting offers made them by our forward youths. But it is necessary to observe, that a nation still enjoying that just and noble simplicity of manners, & living in large houses with several families together, in the midst of their children, cannot conceal

203 WC: Cruise's Journal p.303. [*Cruise R 1824. Journal of a Ten Months' Residence in New Zealand*].

204 WC: Ditto, p.290, 1.

205 WC: Cook's Voyages, Vol III pp 450, 456.

206 WC: Cruise's Journal, p.281.

200 WC: Cook's V. v.iii, p.446.

201 WC: Idem, p. 468.

202 WC: Craik GL 1830. The New Zealanders Pp.37–38.

certain actions, which none of our Europeans, who have feelings and breeding, wished to commit in so great companies.... Virtuous women hear a joke without emotion, which amongst us might put some men to the blush. Neither austerity and anger, nor joy and ecstasy is the consequence, but sometimes a modest, dignified, serene smile spreads itself over their faces, and seems gently to rebuke the uncouth jester.”<sup>207</sup>

**Note 22, Par. 29.** “In New Zealand the fathers and nearest relations were used to sell the favours of their females to those of our ship’s company, who were irresistibly attracted by their charms; and often were these victims of brutality dragged by the fathers into the dark recesses of the ship, and there left to the beastly appetite of their paramours, who did not disdain them, though the poor victim stood trembling before them, and was dissolved in a flood of tears.”<sup>208</sup>

“The favors of the women did not depend upon their own inclination, but the men, as absolute masters, were always to be consulted upon the occasion, and won with a spike-nail, or a shirt, or a similar present.... Some among the women however submitted with reluctance to this vile prostitution; and but for the authority and menaces of the men, would not have complied with the desires of a set of people who could, with unconcern, behold their tears and hear their complaints. Encouraged by the lucrative nature of this infamous commerce, the New Zealanders went through the whole vessel, offering their daughters and sisters promiscuously, in exchange for our iron tools, which they knew could not be purchased at an easier rate. It does not appear that their married women were ever suffered to have this intercourse with our people.... We doubt, however, whether the New Zealanders ever debased themselves so much as to make a trade of their women, before we created new wants by shewing them iron tools.... Whether the members of a civilised society, who could act such a brutal part, or the barbarians who could force their own women to submit to such indignity, deserve the greatest abhorrence, is a question not easily to be decided.”<sup>209</sup>

“It may therefore be alledged, that as the New Zealanders place no value on the continence of their unmarried women, the arrival of Europeans among them, did not injure their moral characters in this respect; but we doubt that they ever debased themselves so much as to make a trade of their women, before we created new wants by shewing them iron-tools.”<sup>210</sup>

“...I fear that hitherto our intercourse has been wholly disadvantageous to the nations of the South Seas; and that those communities have been the least injured, who have always kept aloof from us....”<sup>211</sup>

**Note 23, Par. 29.** Among many painful instances of deep ingratitude, too well known to the writer, the follg. may be taken as an example:—10 yrs. ago there were 2 shore whaling stations about 3 m. apart, on the coast a little S. of Cape Kidn. and 2 m. further S. was the native village of Waimarama. One spring day a canoe of natives went from Waim. to the N.most of the whaling stations; late in the

207 WC: Observations, p.392.

208 WC: J.R. Forster’s Observations p.420.

209 WC: G. Forster’s Voyage. Vol.1, p.211.

210 WC: Ibid. [*This and the next quotation are in the draft, but not in the final copy.*].

211 WC: Ibid.

afternoon they were retg., &, when off the S. whalg. stat., the wind being fresh, the canoe upset about a m. from the land. The accident being seen from the station, the European whalers immy. launched one of their boats (though w. gt. difficulty owing to the heavy surf on the open coast,) & pulled to their rescue: just as the boat reached them one of the Natives was seen to sink, when one of the white m. plunged in & brought him up. All were got in safely to shore—and brought into the whalers’ huts, & warmed, clothed & fed; the Native that had sunk being attended to by the whalers for some hours, rubbing him, &c., before their fire. Late in the evening the Natives walked to their village over the sandy beach. The next mg. the weather having got too rough to “whale”, the European who had saved the native, walked to the village to enq. after him. On reachg. the small river on wh. the v. stands, (wh. is easily ford. at low water,) he found the tide had not suffy. receded; having waited a few moments, he saw the nat. whom he had saved come out of a hut on the opp. shore, he hailed him, & they conversed tog. At length the wh. said, “Shove across one of the small canoes by yr. side that I may come over.” When the characteristic reply was, “He aha te utu ki au?”—i.e., What payment am I to get for so doing? At first the wh. thought it was a joke—but he soon found it was a stern reality, no pay, no canoe to cross in;—findg. he cod. not obtain the momentary loan of a canoe from the man he had yesterday saved from drowning, and without having payment, he returned to his hut & friends—musing as he went.—

**Note 24, Par. 30.** “The canoe of the supr. kind, which seem to be their men of war, are magnificently adorned with open work, and covered with loose fringes of black feathers, which had a most elegant appearance: the gunwale boards were also frequently carved in a grotesque taste, and adorned with tufts of white feathers placed upon a black ground. Of visible objects that are wholly new, no verbal description can convey a just idea, but in proportion as they resemble some that are already known, to which the mind of the reader must be referred; the carving of these people being of a singular kind, and not in the likeness of any thing that is known on our side of the ocean, either in the heaven above, or in the earth beneath, or in the waters that are under the earth.”<sup>212</sup>

(other business there ————— in the Plates”<sup>213</sup>

**Note 25, Par. 35. §2.** As a striking example of this strong resentful feeling the follg. may be given. In 1846 the writer with attendant maories was crossing the Ruahine mtn. range. When near the summit at an alt. of 5000 feet, we entered on the region habited by the Taramea plant (*Aciphylla Colensoi*)—whose rigid bayonet-like leaves expand into a circumference as large as a coach wheel. The ground being pretty well occupied by them, & their leaves meeting, & no track, there was gt. difficulty in passing thro them; often in doing so the leg was pierced on both sides at once & held fast, as securely as if caught in a man-trap. One of the bogg. bearers was so enraged at being severely stuck by a plant that he retreated a short distance,—threw down his bundle—armed himself with the axe, & deliby. went to work to cut up that plant. It was no use tellg. him the long spreadg. elastic frond-like leaves of the plant were longer than the axe handle; in a bitter rage he fought the plant for

212 WC: Cook’s Voyages: Vol.ii, p. 264.

213 WC: Cook. vol.iii. p.460. [*I cannot find this reference.*]

10 minutes, when, nearly exhausted, he was obliged to give in, having recd. several extra stabs in his mad attempt, leaving the plant uninjured. Of course all (save himself,) were convulsed w. laughter—wh. only served to make him the more determined.—

*Note 26, Par. 35.* §2. See copy of essay MS.—

*Note 27, Par. 37.* The Revd. S. Marsden on his 2<sup>nd</sup> visit to N.Z., met with the priest of the heads of Hokianga (a terrific bar'd. entrance) who was believed to have absolute command over the winds & waves. "Accordingly, Mr. Marsden went out with him in a canoe to examine the entrance of the river; Tamanhena assuring him, though it blew very fresh, that he would soon make both the wind and the waves fall. 'We were no sooner in the canoe than the priest began to exert all his powers to still the gods, the winds, and waves. He spake in an angry, commanding tone; however, I did not perceive either the winds or waves to yield to his authority, and when we reached the Heads I requested to go on shore.'"<sup>214</sup>

*Note 28, Par. 38.* "Superstition is natural to [ignorant] man & it exists under distinct forms in different countries. Civilized nations are not exempt from its infl. nor is it to be expected that they will be, so long as some men are born w. weaker minds than others. Its growth, howr., has been consid'y checked, if not destroyed, in all countries where science has made progress.... In N.Z... the grossest delusions prevail & the word *taboo* (*tapu*) very frequently decides the actions of a whole race.... Yet though the taboo subjects them to many absurd & painful restrictions it is nevertheless found party. useful in a nation so irregularly constituted. It serves them in the absence of laws, as the only security for the protection of persons and property, giving them an awful sacredness which no one dares to violate; and by its powerful influence, restraining even the most cruel and rapacious plunderers.... This superstn. serves in a great measure to consolidate the limited power of the akeekees over the inferior chiefs.... The same holds good with respect to whatever else the akeeke chooses to exclude from common intercourse, and the prohibition being generally understood, is never upon any account contravened.... The N.Zers. make no idols, nor have they any external form of worship; their conceptions of a supreme power being shewn only in the veneration they have for the above-mentioned superstition, and in the single word *taboo* all their religion and morality may be said to consist."<sup>215</sup> To the writer of this essay it is party. pleasing to find so just an opinion expressed on the taboo system so many years ago; by a writer, too, who had only stayd. in N.Z. for a short period of 3 months, but who during that time saw really more than many who have resided in N.Z. for 20 years!

*Note 29, Par. 38.* On one of the visits made by the writer to Taupo (1846) across the Ruahine mountain range, then under snow, he was not a little amused and instructed, in hearing one of the old chiefs gravely affirm the cause of their war party (of which he had been one) meeting with the disaster they did in attempting to cross the range at the same place, when on a marauding expedition into the present Hawke's Bay district;—viz. through one of them (mentioning his name) having dared to violate the sanctity of the summits by making water on the top of the range! through which impious act he and several others lost their

lives; and the expedition returned with difficulty, and without effecting their object.

*Note 30, Par. 39.*—This Reinga of the N.Zrs., or rather the entrance to it, is at Cape M.V.D., the N.W. Cape of N.Zealand. The writer, travelling on foot by the W. Coast, (the lonely & desolate course always taken by the spirits,) visited the spot in March 1839. The Cape, composed of ragged plutonic rock having veins of chalcedony, is not very high and is washed on 3 sides by the ocean. Its top is rugged & marked. About 40 feet from the tidal rocks rising beneath, the long bleached main root of a *Pohutukawa* (*Metrosid. toment.*) projects a few feet seaward; it at high water overhangs the sea. Over the top of this sharp & broken cliff, where nought possessing mortality could stand, & down the white-backed root of the tree is the course of the disembodied into the deep waters below. A little to the right is a small arch in the cliff & below it a little stream of water running over the rocks into the sea. Of this stream every sp. drinks its last of Earthly water ere it leaves this world; which, being done, it goes through the arch, up the rock, down the root & exit! A sp. may return to the body it has recently left from the land side of this stream, but having drunk and passed it, never. Of course the whole place was most strictly *tapu*. The unwilling guide to the sacred spot—the "priest" of the nearest & only small village (that had been met w. in 3 days jy. contg. a mis. remnant of 8 persons of the once numerous Aopouri tribe!) gravely assured the writer that the top of the cliff had been so broken & the root of the tree bleached, through the incessant treading of the myriad of spirits in the murderous days of Hongi Ika! (Well may those fatal days be remembered by a N.Zr.!) Much against the strong remonstrances of the old "priest," the writer drank of the sacred stream, wriggled through the arch & brought away a spn. of the rock of renown.<sup>216</sup> In the Reinga the departed live without labour & trouble: they feed on *kumara* (sweet potatoes). Messages were often given to the dying person to take to deceased relatives there. All funereal wails & chaunts over the recent dead ended with "Go, go, away to thy people." And there, also, on Easter Day, under the tabooed crag, selected portions of revealed truth,—containing the only soul-supportg. declarations as to the Way the Resn. & the Life—were read & explained to the little knot of wondg. N.Zrs. It is a curious fact, that by the Fijians, Tahitians, Tongans, & Samoans, as well as by the N.Zrs., the place of departure of the spirits to the unseen world, is uniformly fixed at the W. extremity of the island.

*Note 31, Par. 43.*—An example or two might be given. Among the Ngapuhi tribes a chief was named *Toru*. Three yrs. hence, in that par. sub-tribe, the new word *Tengi* was used instead. A yg. chief at Ahuriri was named *Kite* (the verb to see, to perceive, &c.), hence that verb was no longer used, but instead one of the well-known and principal chiefs, *Te Hapuku* (lit. the Codfish),—hence that fish was always calleb by his tribe & friends *te kawaeroa*.

*Note 32, Par. 51. §2.* The writer has in his possn. a celebrated mere (or green stone battle axe), which has thus descended through sev. gens. of chiefs of one of the Ngapuhi tribes. It had been severally buried with 5 lineal chiefs—"all men of renown" in their day; whose names belong severally to it. The weapon is perfect. 14½ in. long, although it had been much longer (18–30 in.) having been

214 WC: Craik "N.Zrs." p.242.

215 WC: Nicholas vol.2 308-11

216 WC: Now in the N.Z. Exhibition.

broken in battle. Accordg. to tradition it is very ancient & has done much work in their sanguine field.

**Note 33, Par. 51. §3.** Cook says:— “When we shewed the natives our seine, which is such as the King’s ships are generally furnished with, they laughed at it, and in triumph produced their own, which was indeed of an enormous size, and made of a kind of grass, which is very strong: it was five fathom deep, and, by the room it took up, it could not be less than three or four hundred fathom long; fishing seems, indeed, to be the chief business of life in this part of the country. We saw about all their towns a great number of nets, laid in heaps like hay-cocks, and covered with a thatch to keep them from the weather; and we scarcely entered a house where some of the people were not employed in making them.”<sup>217</sup> Other early navigators also express astonisht. at their nets, so also Nicholas,<sup>218</sup> (in 1814). Cruise (A.D. 1823) says— “Our seine, though of the same size with others served out to King’s ships, was contemptible when compared with those of the New Zealanders” p.317.<sup>219</sup>

**Note 34, Par. 51. §3.** Cook, speaking of his landing at Tolaga Bay (Uawa), says, “In their plantations the ground was as well broken down and tilled as even in the gardens of the most curious people among us: in these spots were sweet potatoes, cocos or eddas, which are well known and much esteemed both in the East and West Indies, and some gourds: the sweet potatoes were planted in small hills, some arranged in rows and others in quincunx, all laid by a line with the greatest regularity: the cocos were planted upon flat land, but none of them yet appeared above ground; and the gourds were set in small hollows, or dishes, much as in England. These plantations were of different extent, from one or two acres to ten: taken together, there appeared to be from 150 to 200 acres in cultivation in the whole bay, though we never saw an hundred people. Each district was fenced in, generally with reeds, which were placed so close together that there was scarcely room for a mouse to creep between.”<sup>220</sup> Other early navigators say same.

**Note 35, Par. 52.** One of these Europeans gravely writes thus:— “Kupe is fairly entitled to be viewed as the New Zealand Columbus. In another account, Taha tuna, Tairea, Rimu rapu, Totara karia, are also mentioned. With all these little discrepancies, when we find the majority of these names well known in every part, with the chiefs who commanded them, as well as the ancestors of the different tribes who came with them, we have a sure proof that the general tradition is correct, and that the natives have a more accurate account of the founders of their race than either the English or the Spanish have of theirs in America, although one is more remote in point of time than the other, and labouring under the disadvantage of not possessing a written language to preserve the memory of it, when they can thus give the names of all the canoes which brought their ancestors, the names of those in them, and even the various things they brought.”!!<sup>221</sup> Thompson, too like the rest,

217 WC: vol.ii, p.369–70.

218 WC: “The net employed on this occasion, though to us it appeared of immense size, Tui said was not near so large as they generally made them....” (Nicholas JL 1817. Narrative of a voyage to New Zealand, Black, London, p.27).

219 Cruise, Captain RA 1823. Journal of a Ten Months’ Residence in New Zealand.

220 WC: vol.ii, p.313.

221 WC: Taylor p.125. [Taylor Rev R 1855. *Te ika a Maui*.]

evidently believed that they also brought the “rat” with them!<sup>222</sup> Although he goes bunglingly about it.—He says— vol.I p.59—the N.Z. rat is like the rats found in the Navigators of Rarotonga—& “in the island of Manao (one of that group) are wild dogs resembling the dom. dogs seen in N.Z.” and “the sweet potatoe, wh. their ancestors brought w. them to N.Z. is indigenous in the Nav. Islands” when it is not, and the statements he calls “reasons” and “proofs” of the N.Zrs. having come from those islands!! Jam satis.

**Note 36, Par. 53. §3.** “We found the isles of the South-Sea very populous; and from the accounts of former navigators, they were so, more than 180 years ago, and in the very condition, in regard to happiness, in which we ourselves observed them; so that we may be sure, that their civil or social establishment is of a long standing.”<sup>223</sup>

**Note 37, Par. 53. §26.** This decline of the whole race is, it is feared, too true to be for a moment doubted. The writer is in possession of much unimpeachable evidence shewing its universality. A few striking examples only will here be given—chosen, from among many others, on acct. of their having been often mentioned in this essay, with respect to New Zealand. for their genl. position, & variety in pol. œconomy.

1. the Sandwich islands to the N., being the longest & most civilized, & under one chief or king:
2. the Samoan central groupe, as chiefly under missionaries: and
3. Easter Island, to the extreme E., as being heathen, isolated & almost unvisited.

1. The population of the Sandwich Islands was stated by Cook to be 400,000:—but, according to Hopkins, “200,000 would be probably the more correct computation—of the Sandwich Islanders in 1778–9 (time of Cook’s visits). Even then it seems likely to have been on the decrease, & that good old times had preceded that age—times in wh. a more numerous people covd. the islands, & left traces of their strength & abundance in roads, walls, temples, & other works. From Cook’s time to the present, the decay of the pop. has been continuous & rapid. At the time of Mr. Ellis’ visit (1823) the no. on the whole of the island was estimated at from 130,000 to 150,000 souls. In 1849, the population had fallen (by census) to 80,000. In 1853, the total no. (by census) 71,619. In (by the census) 1860 the total no. was 67,084.—Taking the lowest est. of the pop. at the time of Cook’s discovery of the islands, the Sandwich Islanders have diminished to one third in the last 80 years.”<sup>224</sup>

2. The popul. of the Samoan groupe was believed by Mr. Williams (C.M.) to amount to 160,000 in 1830, but probably this was an overestimate. In 1839, according to Com. Wilkes, the total pop. of the group. was 56,600 [p.190.v.i]. In 1845, the “Samoa Reporter” (printed by the Miss. in the island) speaks of it as between 50,000 & 60,000; & it is now [1853] toly. well ascertained that the whole nos. do not exceed 38,000. There can indeed be but

222 Thomson AS 1859. The story of New Zealand. John Murray, London, p.21: “...both these animals (dogs and rats) were brought to the country by the New Zealanders”.

223 WC: Forster’s *Obsns.* p.343. [*Colenso doesn’t state the exact passage he intended to quote from JR Forster’s 1778 Observations made during a voyage round the World, but that quoted from p.343 seems apt for Colenso’s paragraph 53, s.3.*]

224 WC: “Hawaii”:—by Manley Hopkins, H. Consul General, &c., p.363–365. Lond. 1862.

little doubt that a consid. decrease is gradually taking place,<sup>225</sup> and Turner, in the most recent work already cited, p.220, also says— “Among a people destitute of statistics or records of any kind, it is difficult to speak correctly of an earlier date than some 25 yrs. ago; since that time howr. the pop. has been on the decrease.”

3. Speaking of Easter Island, Forster says, “When it was discovd. in 1722, by Roggeveen it contd. many thousands of inhabitants. The Spaniards found in 1770 about 3000 people on it, and we, (Cook,) in 1774 scarcely 900.<sup>226</sup> La Perouse, who visited the island in 1785, & who seemed to have had better means of ascertaining, than Forster or Cook, (owing perhaps to Cook’s remembered hiccups) speaks of having “seen about 1200 inhabitants;” and that he “believed the popul. without exaggeration then to be 2000.”—Modern visitors have spoken of them as being “about 300,”—while the last account of their informants say their companions had been all carried off by Peruvian ships to work on the neigbg. Chincha islands.

But it is neither only, nor principally from the sad picture of their numerical decrease that the writer contemplates the steady decline of a race. The Polynesians seem have been retrograding for a long time—perhaps centuries; as “the temples, roads, & walls,” in the Samoan Islds., & the colossal figures in Easter Island, silently intimate.

The New Zealanders appear to have been in quite as advanced a state when Tasman discovd. them (1643), as they were when Cook visited them, 126 years after,<sup>227</sup> and historically it is certain that for the last 40 years they have been generally and gradually retrograde in their every national & prized manufactures and acts. All steady application to any thing, whether of for. or dom. origin, seems lost: their whole char. is sadly changed in their respect for the work. Man, like the tide, if not advancing in knowledge; indeed the Polynesians seem for years of natural decline to have had little or no power beyond imitation hence they constantly repeated the same idea without a shadow of alteration or improvement: indeed, among the New Zealanders to invent any thing new, go out of the old track, was looked upon as faulty innovation, & was thus open to condemnation. Is it too much here to adduce their own opinion on that steady & certain decline mournfully & mysteriously shadowed for them in the gradual extinction of other animals (& plants) around them? In N.Z. all the quadrupeds—the dog, the rat, the guana, the strange shadowy Kaurehe of Mantell:<sup>228</sup> of birds the quail, ground parrot, the notornis, the var. sp. of Apteryx, the huia,

225 WC: Erskine’s Journal of a Cruise in the W. Pacific, p.10. Lond. 1853.

226 WC: Forster’s Obsns. p.429.

227 WC: Prescott. Mexico. vol.i, p.111.

228 WC: “Mantell’s Guide to the Brit. Museum” p.105. The writer believes that it is not generally known that a quadruped, something of this description (?) was seen in N.Z. by the early navigators. G. Forster (in his “Voyage round the World,” vol.1. p.155,) says— “One of our people twice reported (while we were at Dusky Bay) that he had seen a brown animal, somewhat less than a jackal or little fox, abt. the dawn of day., sitting on the stump of a tree near our tents, running off at his approach;”— and, J.R. Forster, in his “Observations” also says— “Some sailors on board the Resolution, affirmed they had seen a little quadruped at Dusky Bay, of the shape of, a fox or jackal; but we never, in any of our excursions in the woods, met w. anything of this kind.”—

& scores of other birds now unknown; as the cat parrot of Philip Island, and the Dodo-like Pigeon (*Didunculus*) of the Samoan groupe, while in the other Polynesian islands, endemic species of birds, formerly plentiful, are becomg. a novelty & nearly extinct.

**Note 38, Par. 65, §13.** The writer himself acted somewhat in this way, for several years, from 1845 to 1853, & as he believes, w. great success. In 1854, the Govt. sent their first R.M. to Hawke’s Bay; and, in 1855, the writer addressed to him a letter, pointing out to him the great benefits both to the Natives, & to the Settlers (then beginning to arrive), if some such mode as this here mentioned (§13) could be carried out. The doings of the subsequent 11 years have only confirmed the writer in the correctness of his old views mainly derived from experience.

The writer in closing these notes, would add the following mod. testy. (which he has only seen since this essay was written)—in part explanation of what has been addressed in Par. 65. §18,—and as concerning the genius of the Polynesian race:— “The kind of preaching which takes in Samoa, is the illustrative. A plain statement of abstract truth to a people who hardly ever open their mouth but in a figure, is dry & uninteresting. The successful p. in Samoa [as in N.Z..] whether native or European, must search heaven & Earth & sea, & bring forth also from every age of the history of his fellow-men w. wh. he is acqd., facts illustrative of the great truths wh. he preaches. The man who thinks that “anything” will do for such a people, will find that his preaching is vain & valueless. He will neither gain the respect of the people, nor save souls.”<sup>229</sup>

## 1868 Essay on the botany, Geographic and Œconomic, of the North Island of the New Zealand group.

*Transactions of the New Zealand Institute 1: 233-283.*<sup>230</sup>

### §I. PRELIMINARY.

1. It is very nearly a century since the Botany of New Zealand first became known to science. On the north-west shore of Poverty Bay, in the evening of Sunday the 8th of October, 1769, (being early summer) Sir Joseph Banks and Dr. Solander (then first landing with Captain Cook) had the pleasure and privilege of beholding and gathering the first floral specimens of (what they then believed to be) the vegetation of the great *terra australis incognita*. That was truly a Botanical æra; when the queen of natural science (through the efforts of the immortal Linnæus and his zealous disciples, aided by their royal patrons and promoters), vigorously flourished, and bore those pleasing and useful fruits which have come down with such good results to our own times. All those early Naturalists in the

229 WC: 19 yrs Polynesia, p.155. (Turner G 1861. Nineteen years in Polynesia, London).

230 This was first published in 1865 as “Essay on the Botany of the North Island of New Zealand”. Dunedin, printed for the Commissioners of the New Zealand Exhibition by Fergusson and Mitchell. 1 pl., 58p. The versions published in the first and second printings of the *Transactions* differ slightly.

New Zealand field, to whom her *Flora* is so much indebted,—Banks, Solander, Sparmann, and the two Forsters (father and son), were all disciples and correspondents of Linnaeus.—When the writer, in January, 1838, first visited those forests at "Howa-howa" (Uaua) Tolaga Bay, (whence the earliest specimens of fine plants peculiar to New Zealand were first obtained by those Botanists) a deep reverential undescribable feeling stole over him, on treading the same ground which Banks and Solander and Cook had trod, and on viewing the remarkable cliffs and trees, on which they had often gazed and visited and sketched. A feeling, heightened, doubtless, through conversing with the few old New Zealanders still dwelling there, who had seen and recollect those patriarchs of British enterprise in New Zealand. This present year of grace, 1864, has been lately signalized by Great Britain and the civilized world as that of the Tercentenary Commemoration of the immortal British Poet "of all nations and of all time"; and, surely, five years hence, the Colonists of New Zealand will suitably commemorate the Centenary landing of the adventurous and [2] celebrated British Navigator COOK,—*the great Navigator of and for all Nations*,—on these shores with his illustrious band of devoted disciples of Natural Science. For, although many a Botanist has followed in their steps in New Zealand, yet none has equalled them,—whether the obstacles which impeded, or the fruits of their labours, or their devotedness to their calling, or the correctness of their views,—be duly considered.

2. But it is only during the nineteenth century that insular Botany has begun to receive that attention which it demands. It could not advantageously have been studied much earlier; and even now it may justly be said to be in its infancy. Island Floras with their geology and climate, have to be more fully explored and made known; and species have to be more clearly defined; and the bounds of varieties ascertained; and the innate powers of a plant to evolve and change under favorable natural conditions, have to be better understood, ere many important questions can be satisfactorily answered. Yet that day will come. Every natural fact collected and recorded by the true lover of science is a step towards it. The Sphinx, Nature, is daily being evoked by her faithful sons; and her answers, always extorted and always correct, (though not always interpreted correctly,) are being registered for future generations. To us it appears strange, that a species should be found here, (in New Zealand,) and its like only at the Antipodes; or, perhaps, at one of the two great Southern Capes of America, or Africa; or, which is far more probable, only at some small islet,—a mere speck in the oceanic waste of waters,—as Juan Fernandez, or Easter Island,—the Falkland Islands, or Tristan d' Acunha;—St. Paul's, or Amsterdam;—Kerguelen's Land, or Norfolk Island. Is it the very same identical species; or is it only similar? If it is similar, has it become changed through climate situation and soil? and, if so, how much more may it not change? If the same, were there more than one original germ of its kind? If only one, in which spot was it first? and how many ages rolled by ere it was first found in the other? and how many more before it became common therein? Or, were the present widely dissevered localities then one Continent?<sup>231</sup> and, if so, how long a period did it require for the said one germ to reach its

present outermost range—assuming such germ to have been originally placed in its centre? If not from one germ but many; were all, required for the various localities, created together? or, some earlier, some later? and, if so, which localities were the earlier, which the later supplied? Does every island, or island [3] group, far from any mainland, contain genera and species peculiar to itself,<sup>232</sup> (among many which are con-generic with others in the nearest, though far off, land) and thereby constitute a Botanical centre, or region? Were all existing species created at once? or, are species still being created? or, has such creation ceased? and, if so, when? Are *all* the so-called generic or specific distinctions really such? Has a species a power of evolution and metamorphosis *per se*; which, the factors, time, suitable soils, and climate, being given, knows no bounds? Have there been in past æras any potent occult elemental causes at work, differing only in intensity combination and constancy from what now are, through which sub-varieties, varieties and species were the more readily evolved? May not a plant be outwardly distinct, yet chemically the same? May a plant be almost entirely outwardly the same with another, and yet chemically distinct? May not Nature educe, under the most favorable circumstances, from two genera slightly differing fertile plants forming new genera more divergent? and may not such (again crossed by Nature) produce plants still more widely differing? Why, among several species of any given endemic genus (*e. g. Coprosma, Dracophyllum, Veronica*) should some species be of robust and vigorous growth-and development, and common everywhere; other species of weakly growth and development, and comparatively scarce? are some of these forms older than others? and, if so, which are the seniors? Are not the more robust and vigorous ones, through their own progressive increase, likely to extirpate the weaker ones? - - - - Such are some of the thoughts which must often arise in the intelligent Botanist's mind, especially when contemplating new or old forms in far off insular situations.

## §II. GEOGRAPHIC.

3. But, laying aside the ideal and theoretical, and coming to the practical and real:—how does the vegetation of this Northern Island of New Zealand appear when seen for the first time? What is its peculiar aspect? The answer will mainly depend on two things: (1.) the place whence the newly-arrived beholder last came; and (2.) the place in New Zealand where he lands;—not forgetting his expectations,—as the eye ever sees what the mind brings. If he last left the shores of Great Britain,—then the recollection of her verdant fields, may cause the brown fern-clad hills and dark-green forests of New Zealand to appear the more gloomy and sad; if his last landscapes were either South African or Australian, then their glaucous sea-green hue and arid appearance, [4] will be agreeably contrasted with New Zealand forest vegetation;—but, if he should have come hither direct from the sunny skies and islands of the tropics, with their graceful perennial light ever-green dress, then the New Zealand hills and dells may appear very sombre, and will suffer from recollection and comparison. Again: if he should happen to anchor in one of the many rivers or harbours north of the Thames,—while the ubiquitous brown fern (*Pteris esculenta*) is everywhere,—he will be struck with the appearance of the White Mangrove (*Avicennia*

231 Although tectonic plate theory was proposed only in the 1960s, continental drift had been theorised since Abraham Ortelius (1596).

232 Echoes of Donne: "No man is an island, entire of itself / every man is a piece of the continent, a part of the main...."

*officinalis*) growing within the range of the tide, and the romantic Pohutukawa (*Metrosideros tomentosa*) pendant from the cliffs or perched on some rocky headland; and perhaps in some forest not far off the stately Kauri Pine (*Dammara australis*) uprearing its lofty head far above all its compeers; but these vegetable characteristics will not be found south of the East Cape.

4. The general appearance of New Zealand vegetation (North Island) is not on the whole of a pleasing character. Brown fern-clad plains, and low hills sometimes of tolerably regular outline but oftener of all rugged shapes and sizes; and dark-green almost gloomy looking forests,—here extending for many miles, and there in belts or patches,—yield not an agreeable prospect. But, in summer,—when the sombre fern is bedecked with the neat flowering mantle of its neighbour, the myriad blooming Manuka (*Leptospermum scoparium*), diffusing also its aromatic smell with every breeze; and the smaller and much more variegated woods, found nestling in deep glens and fringing the watercourses, exhibit their “ever-changing ever new” forms and summer colours in ever-varying lights and shades,—then the New Zealand vegetation appears greatly to advantage.

5. Not many of our larger timber trees are either handsome or graceful in foliage and branching when full grown, although several are both while young,—(*e.g.* the drooping-branched Rimu, (*Dacrydium cupressinum*,) the graceful fern-plumaged Kawaka, (*Thuja Doniana*,<sup>233</sup>) the handsome celery-leaved Tanekaha, (*Phyllocladus trichomanoides*,) the elegant poplar-like Rewarewa, (*Knightia excelsa*) the soft full-foliaged Titoki, (*Alectryon excelsum*,) the ornate Tawhai, (*Fagus Menziesii*) and, in high alluvial soils, the spreading Tawhai-rau-nui, (*Fagus fusca*). Yet, what may be absent of beauty and grace is more than supplied in size and utility. The huge bulk of some of the vegetable giants of the New Zealand forests, and the clean symmetrical trunks of others [5] towering aloft in silent grandeur, can never fail to strike the beholder with astonishment and awe: a feeling sense of his own littleness and span-like existence—of admiration at—“the (living) high embowered roof, with antique pillars massy proof,—casting a dim religious light,”—(ending perchance in lofty thoughts tending towards immortality,) is sure in such umbrageous retreats to steal over him.

6. Of our shrubs and smaller timber trees, several are of strikingly beautiful growth, or blossom, or foliage; and are often seen to advantage when standing in some clear glade, or on the outskirts of a forest:—(*e.g.*) the Houhere, *Hoheria populnea* (a) and its varieties; the Horopito, *Drimys axillaris*; the Manuka-rau-riki, *Leptospermum ericoides*; the Kohuhu, *Pittosporum tenuifolium*; the Kowhai, especially the small-leaved mountain variety, *Sophora tetrapetala* var. *grandiflora*; the Koromiko-taranga, *Veronica*, several species; the Mairehau, *Phedalium nudum*; the Toro, *Personaria Toro*; the Pukapuka, *Brachyglossis repanda*; the Northern Maire, *Santalum Cunninghamii*; the Tawari, *Ixerba brexioides*; the Tipau, *Myrsine Urvillei* and *M. salicina*; the Tangeao, *Tetranthera calicaris*; the Ramarama, *Myrtus bullata*; the Ti, *Cordyline australis*; the Kahikomako, *Pennantia corymbosa*; the Pate, *Schefflera digitata*; the Horeka, *Panax crassifolia*: and, on the sea-coast, the Karaka, *Corynocarpus laevigata*; the Karo, *Pittosporum crassifolium*; and the truly evergreen Ngaio, *Myoporum laetum*, (fit symbol of vigorous health on its barren and

desolate beaches!)—while the tree ferns are universally praised for elegance of form, and, wherever seen, add an indescribable charm to the landscape, and draw willing homage from the delighted admirer.

7. The large virgin forests are generally composed of trees different in genera and sizes. The Kauri pine is always associated with other trees; yet, its loftiness, its colossal bulk, and peculiar growth, (including a huge mound of 8–12 feet alt. around its base, composed of its own fallen deciduous scales of outer bark) ever gives the forest in which it grows a highly characteristic appearance, so that such is truly a Kauri forest. A few only of our timber trees can be said to form large forests of a single species; such as, (on the low grounds,) Kahikatea, or White Pine, (*Podocarpus dacrydioides*); this alone of all the timber trees is chiefly found growing thickly together. The Totara, (*P. totara*) may also sometimes be found forming clumps or groves. The Tawhai, or Black Birch, (*Fagus Solandri*,) is frequently, in the south parts of the Island, [6] the prevailing tree on the sides of clayey hills, where it forms continuous woods. The Tawa (*Nesodaphne Tawa*), on both dry hills and low alluvial grounds, is commonly found forming large forests. On high grounds in the interior, especially on the old sandstone (*Paleozoic*), the Tawhai-rau-nui (*Fagus fusca*) often grows together in large forests; and the peculiar glory of these woods is, their openness and freeness from underwood, so that a traveller may run through them,—to the great danger, however, of losing the track. And, at a much higher elevation,—4000 to 6000 feet,—on the top of the mountain ranges, grows an allied species, *F. Cliffortioides*; and with it many small tough thick-growing gnarled shrubs as underwood, which can only be passed by walking on (not among); and which, with the prostrate and concealed rotten trees and branches, sadly tries the traveller’s strength and patience, causing him to wish he was again in the low alluvial woods by the water-courses, among the supple-jacks, polygonums, and brambles!—

8. In order, however, that the Botanical Geography of this large island may be the better known, especially to those at a distance, it will be necessary to go a little into detail, and to show the same, as far as practicable, from its insular position, climate, and situation; as well as from a brief comparison of its Botany with that of the nearest lands. In doing this, the phænogamous genera and species, including also Ferns, endemic to our island, will be particularly noticed; and those plants which are very local in their habitat will be pointed out. For, although the general climate of the whole island is temperate and genial, (extending as it does from 34° to 42° south, and with only two elevations above the line of perpetual snow) several of its vegetable productions are remarkably local. And, that this may be the more naturally and readily perceived, it is purposed to show the same in two ways:—(1.) by areas corresponding more or less to its degrees of latitude; and (2.) by zones increasing in altitude surrounding the island. (b.)

9. Of phænogamic GENERA which (as far as is at present known) are peculiar to the North Island of New Zealand, the following may be mentioned, *viz.*,—*Entelea*, *Ackama*, *Ixerba*, *Alseuosmia* (several species), *Colensoa*, *Rhabdothamnus*, *Nesodaphne* (2 sp.), *Dactylanthus*, and *Adenochilus*; and of Ferns, *Loxsoma*. And of endemic SPECIES of genera hitherto unknown to the other New Zealand Islands, the following phænogams, *viz.*,—<sup>\*</sup>*Phebalium nudum*; *Pomaderris* (3.), *elliptica*, *Edgerleyi*, and *phylicifolia*; *Cianthus puniceus*; *Eugenia Maire*;

233 *Libocedrus Doniana*, Hook.f.—ED.

*Meryta Sinclairii*; [8]\**Sapota costata*; *Olea* (3), *Cunninghamii*, *lanceolata*, and *montana*; *Geniostoma ligustrifolium*; *Calceolaria* (2), *Sinclairii*, and *repens*; *Glossostigma elatinoides*; *Vitea littoralis*; \**Pisonia Brunoniana*; *Tetranthera calicaris*; *Knightia excelsa*; *Persoonia Toro*; *Santalum Cunninghamii*; *Elatostemma rugosum*; *Dammara australis*; *Sarcocilus adversus*; *Alepyrum pallidum*; *Ehrharta Colensoi*; *Microlæna* (2), *avenacea*, and *polynoda*; *Catabrosa antarctica*: and of Ferns:—*Doodia* (2), *media*, and *caudata*; *Arthropteris tenella*; *Nephrolepis tuberosa*; *Lygodium articulatum*; and *Phylloglossum Drummondii*.<sup>234</sup>

10. Besides which there are very many species peculiar to the North Island, but of genera common to all New Zealand; of which species the more notable are the following, viz., of phænogams:—*Ranunculus* (2), *insignis*, and *nivicola*; *Melicytus* (2), *macrophyllus*, and *lanceolatus*; *Pittosporum* (6), *cornifolium*, *crassifolium*, *umbellatum*, *Colensoi*, *pimeleoides* and *reflexum*; *Hoheria* (2.) *populnea*, (*vera*) and *Sinclairii*; *Aristotelia Colensoi*; *Carmichaelia pilosa*; *Quintinia elliptica*; *Metrosideros* (5), *albiflora*, *diffusa*, *Colensoi*, *robusta*, and *tomentosa*; *Myrtus* (2), *bullata*, and *Ralphii*; *Tetragonia irigyna*; *Panax Sinclairii*; *Corokia buddleoides*; *Loranthus tenuiflorus*; *Coprosma* (9), *spathulata*, *tenuicaulis*, *grandifolia*, *petiolata*, *propinqua*, *Colensoi*, *depressa*, *repens*, and *microcarpa*; *Nertera* (2), *Cunninghamii*, and *setulosa*; *Olearia* (4), *furfuracea*, *Forsteri*, *albida*, and *Solandri*; *Lagenophora lanata*; *Cassinia retorta*; *Brachycome odorata*; *Senecio* (5), *latifolius*, *Colensoi*, *Greyii*, *perdicoides*, *glastifolius*, and *elœagnifolius*; *Forstera Bidwillii*; *Pratia perpusilla*; *Gaultheria* (3), *Colensoi*, *fagifolia*, and *oppositifolia*; *Epacris Sinclairii*; *Dracophyllum* (4). *latifolium*, *squarrosum*, *subulatum*, and *recurvum*; *Myrsine* (3), *salicina*, *montana*, and *divaricata*; *Logania depressa*; *Exarrhena petiolata*; *Veronica* (5), *pubescens*, *diosmæfolia*, *nivalis*, *spathulata*, and *elongata*; *Utricularia* (3), *Novæ Zelandiæ*, *Colensoi*, and *protrusa*; *Plantago uniflora*; *Chenopodium pusillum*; *Pimelea* (3), *buxifolia*, *arenaria*, and *prostrata*; *Libocedrus Doniana*; *Phyllocladus trichomanoides*; *Acianthus Sinclairii*; *Prasophyllum* (3), *tunicatum*, *pumilum*, and *nudum*; *Thelymitra* (2), *Colensoi*, and *imberbis*; *Pterostylis* (4), *micromega*, *foliata*, *trullifolia*, and *puberula*; *Cordyline Pumilio*; *Astelia* (2), *linearis*, and *Banksii*; *Arthropodium cirrhatum*; *Juncus capillaceus*; *Luzula Colensoi*; *Chætospora* (4), *Tendo*, *Brownii*, *concinnus*, and *nitens*; *Gahnia xanthocarpa*; *Carex* (4), [9] *acicularis*, *dissita*, *Lambertiana*, and *vacillans*; *Uncinia* (3), *rubra*, *cæspitosa*, and *ferruginea*; *Agrostis setifolia*, and *Danthonia* (2), *bromoïdes*, and *nuda*. And of Ferns:—*Cyathea Cunninghamii*; *Trichomanes elongatum*; and *Adiantum Cunninghamii*.

11. In considering the vegetation of the North Island, in lateral areas nearly corresponding with its degrees of south latitude, the distribution of genera and species peculiar to each area, (in a few instances overlapping) will be found very nearly thus:—

(i.) The Northern area, from 34° to 35° south, contains, *Drosera pygmaea*, *Colensoa physaloides*, *Cassytha paniculata*, *Hibiscus trionum*, *Cassinia retorta*, *Ipomoea pendula*, and *Todea Africana*.

(ii.) The Bay of Islands area, from 35° to 36° south, contains, *Barbarea australis*; *Melicytus macrophyllus*; *Pittosporum*

(4), *cornifolium*, *umbellatum*, *reflexum*, and *pimeleoides*; *Hoheria populnea* (*vera*); *Phebalium nudum*; *Pomaderris elliptica*; *Eugenia Maire*; *Quintinia elliptica*; *Ackama resæfolia*; *Sinclairii*; *Corokia buddleoides*; *Alseuosmia*, several species; *Lagenophora lantata*; *Epacris pauciflora*; *Dracophyllum latifolium*; *Sapota costata*; *Geniostoma ligustrifolium*; *Rhabdothamnus Solandri*; *Gratiola pubescens*; *Glossostigma elatinoides*; *Veronica* (2), *diosmæfolia*, and *elongata*; *Pisonia Brunoniana*; *Atriplex Billardieri*; *Tetranthera calicaris*; *Nesodaphne Tarairi*; *Santalum Cunninghamii*; *Elatostemma rugosum*; *Peperomia Urvilleana*; *Libocedrus Doniana*; *Sparganium simplex*; *Prasophyllum pumilum*; *Thelymitra imberbis*; *Pterostylis trullifolia*; *Gleichenia* (2), *semivestita*, and *flabellata*; *Loxsoma Cunninghamii*; *Lomaria* (2), *membranacea*, and *Fraseri*; *Doodia media*; *Schizœa dichotoma*; *Marattia salicina*, and *Phylloglossum Drummondii*.

(iii.) The Thames area, from 36° to 37° 30' south, contains, *Cardamine divaricata*; *Pamaderris Edgerleyi*; *Panax anomala*; *Corokia cotoneaster*; *Epacris* (2), *purpureascens*, and *Sinclairii*; *Dracophyllum squarrosum*; *Coprosma crassifolia*; *Veronica pubescens*; *Spiranthes australis*; *Pterostylis* (2), *puberula*, and *squamata*; *Pellaea falcata*; *Pteris Endlicheriana*; *Gymnogramma leptophylla*; and *Psilotum triquetrum*.

(iv.) The East Cape area, from 37° 30' to 39° S., contains *Clematis hexasepala*; *Pittosporum rigidum*; *Epilobium* (3), *microphyllum*, *glabellum*, and *melanocaulon*; *Erechites prenanthoides*; *Senecio* (2), *odoratus* and *perdicoides*; *Gaultheria fagifolia*; *Dracophyllum subulatum*; *Calceolaria Sinclairii*; *Euphrasia cuneata*; *Myosotis* (2), *Forsteri* and *spathulata*; *Utricularia* (2), *Colensoi*, and *protrusa*; *Lemna gibba*; *Adenochilus gracilis*; *Callixene parviflora*; *Arthropodium condidum*; *Hymenophyllum* (2), *pulcherrimum* and *œruginosum*; *Trichomanes Colensoi*; [10] *Davallia Nova-Zelandiæ*; *Lomaria nigra*; *Dicksonia* (2), *antarctica* and *lanata*; *Polypodium sylvaticum*; *Nephrolepis tuberosa*; *Polystichum vestitum*; and *Leptopteris superba*.

(v.) The Hawke's Bay and Taranaki area, from 39° to 40° S., (excluding plants from above 4000 feet altitude, which will be noticed separately hereafter), contains *Ranunculus geraniifolius*; *Melicytus lanceolatus*; *Drosera* (2), *Arcturi* and *spathulata*, var. *pusilla*; *Pittosporum* (2), *Colensoi*, and *fasciculatum*; *Stellaria* (2), *parviflora*, and *elatinoides*; *Colobanthus Billardieri*; *Aristotelia fruticosa*; *Stackhousia minima*; *Carmichaelia* (3), *odorata*, *flagelliformis*, and *juncea*; *Acœna microphylla*; *Panax* (2), *simplex* and *Colensoi*; *Ligusticum aromaticum*; *Angelica geniculata*; *Loranthus* (2), *Colensoi*, and *flavidus*; *Coprosma* (8), *fætidissima*, *Colensoi*, *parviflora*, *cuneata*, *linariifolia*, *depressa*, *repens*, and *pumila*; *Asperula perpusilla*; *Olearia* (4), *Colensoi*, *ilicifolia*, *nitida*, and *dentata*; *Celmisia* (2), *coriacea*, and *glandulosa*; *Lagenophora* (2), *petiolata*, and *pinnatifida*; *Leptinella squalida*; *Gnaphalium prostratum*; *Senecio elœagnifolius*; *Pratia perpusilla*; *Wahlenbergia saxicola*; *Gaultheria* (2), *Colensoi*, and *oppositifolia*; *Cyathodes Colensoi*; *Epacris alpina*; *Dracophyllum filifolium*; *Logania depressa*; *Gentiana montana*; *Calceolaria repens*; *Mazus Pumilio*; *Veronica* (6), *Colensoi*, *lœvis*, *buxifolia*, *Lyallii*, *cataractæ*, and *Anagallis*; *Ourisia macrophylla*; *Myosotis* (2), *antarctica* and *Forsteri*; *Exarrhena* (2), *petiolata* and *saxosa*; *Polygonum* (2), *aviculare*, and *Dryandri*; *Muhlenbeckia ephedroides*; *Chenopodium pusillum*; *Atriplex patula*; *Pimelea* (2),

234 WC: Those prefixed thus (\*) are also found at Norfolk Island.

*buxifolia*, and *Lyallii*; *Zannichellia palustris*; *Cyrtostylis* (2), *rotundifolia*, and *macrophylla*; *Pterostylis foliata*; *Corysanthes rotundifolia*; *Hypoxis pusilla*; *Chrysobactron Hookeri*; *Herpolirion Novæ-Zelandiæ*; *Astelia nervosa*; *Juncus* (2), *Novæ-Zelandiæ*, and *capillaceus*; *Calorophus minor*; *Isolepis cartilaginea*; *Schenus* (4), *pauciflorus*, *Brownii*, *concinus* and *nitens*; *Cladium articulatum*; *Carex* (4), *inversa*, *Colensoi*, *stellulata*, and *teretiuscula*; *Uncinia* (5), *distans*, *divaricata*, *rubra*, *cæspitosa* and *ferruginea*; *Microlæna* (2), *stipoides* and *polynoda*; *Danthonia* (2), *nuda*, and *Raoulii*; *Poa* (2), *lævis*, and *Colensoi*; *Gymnostichum gracile*; *Gleichenia dicarpa* var. *alpina*; *Alsophilia Colensoi*; *Asplenium Trichomanes*; and *Riccia* (2), *acuminata*, and *natans*. [11] *Arenaria media*; *Carmichaelia pilosa*; *Epilobium tenuipes*; *Gunnera prorepens*; *Myrtus* (2), *obcordatus* and *Ralphii*; *Tillæa purpurata*; *Tetragonia trigyna*; *Pozoa trifoliolata*; *Erygium vesculosum*; *Crantzia lineata*; *Aciphylla* (2), *squarrosa* and *Colensoi*; *Angelica Gingidium*; *Coprosma petiolata*; *Nertera setulosa*; *Olearia* (2), *virgata*, and *Forsteri*; *Leptinella pusilla*; *Senecio Greyii*; *Calystegia marginata*; *Mimulus radicans*; *Utricularia Novæ-Zelandiæ*; *Plantago spathulata*; *Atriplex cinerea*; *Urtica* (2), *Australis* and *ferox*; *Ascarina lucida*; *Prasophyllum nudum*; *Apera arundinacea*; *Agrostis parviflora*; *Danthonia bromoides*; *Adiantum formosum*; *Aspidium oculatum*; *Gymnogramma rutæfolia*; *Grammitis rufus-villosa*; *Riccia fluitans*; and *Parmelia* (2), *perforata*, and *chrysopthalma*.

12. In further endeavoring to show the distribution of the Plants of the North Island by zones surrounding the same, the more noteworthy and stable genera and species alone will be noticed. These will be divided into eight zones, as follow:—

- i. Maritime and littoral.
- ii. Coast, mostly within a few yards above high water mark.
- iii. Lowland—from the Coast to an altitude of 500 feet.
- iv. Midland,—from 500 to 1500 feet altitude.
- v. Upland,—from 1500 to 2500 feet altitude.
- vi. Mountainous,—from 2500 to 3500 feet altitude.
- vii. Sub-Alpine,—from 3500 to 4500 feet altitude.
- viii. Alpine,—from 4500 to snow line.

(i.) The maritime and littoral zone contains *Myosurus aristatus*; *Ranunculus acaulis*; *Lepidium* (2), *oleraceum* and *incisum*; *Plagianthus divaricatus*; *Fuchsia procumbens*; *Metrosideros tomentosa* (c.); *Mesembryanthemum australe*; *Tetragonia* (2), *expansa* and *trigyna*; *Apium* (2), *filiforme*, and *australe*; *Coprosma* (2), *retusa*, and *petiolata*; *Senecio lautus*; *Goodenia repens*; *Calystegia soldanella*; *Avicennia officinalis*; *Myoporum laetum*; *Samolus littoralis*; *Plantago spathulata*; *Chenopodium* sp.; *A triplex* sp.; *Salicornia indica*; *Euphorbia glauca*; *Desmoschænus spiralis*; *Leptocarpus simplex*; *Carex littorea*; and *Spinifex hirsutus*. [12]

(ii.) The Coast zone contains: *Hymenanthera crassifolia*; *Pittosporum crassifolium*; *Hibiscus Trionum*; *Entelea arborescens*, *Discaria Toumatou*; *Corynocarpus lœvigata* (d); *Gunnera prorepens*; *Sicyos angulatus*; *Eryngium vesculosum*; *Meryta Sinclairii*; *Coprosma acerosa*; *Cassinia retorta*; *Senecio* (2), *Greyii* and *Colensoi*; *Colensoa physaloides*; *Pratia perpusilla*; *Sapota costata*; *Dichondra repens*; *Mimulus repens*; *Veronica* (4), *macroura*, *speciosa*, *parviflora*, and *diosmæfolia*; *Pisonia Brunonianæ*; *Muhlenbeckia ephedroides*; *Suæda maritima*; *Pimelea arenaria*; *Piper excelsum*; *Peperomia Urvilleana*;

*Triglochin flaccidum*; *Arthropodium cirratum*; *Bromus arenarius*; *Triticum scabrum*; and *Parmelia chrysopthalma*.

(iii.) The Lowland zone, from the coast to an altitude of about 500 feet, contains: *Clematis hexasepala*; *Ranunculus* (4), *plebeius*, *hirtus*, *incisus*, and *rivularis*; *Drosera* (2), *pygmæa*, and *auriculata*; *Pittosporum umbellatum*; *Plagianthus betulinus*; *Linum monogynum*; *Hoheria populnea*; *Aristotelia racemosa*; *Alectryon excelsum*; *Dodonaea viscosa*; *Dysoxylum spectabile*; *Melicope ternata*; *Clianthus puniceus*; *Carmichaelia* (2), *australis*, and *juncea*; *Metrosideros* (3), *florida*; *hypericifolia*, and *scandens*; *Myrtus* (3), *bullata*, *obcordata*, *Raphii*; *Carpodetus serratus*; *Quintinia serrata*; *Ackama rosæfolia*; *Weinmannia sylvicola*; *Angelica* (2), *gingidiump*, and *rosæfolia*; *Daucus brachiatius*; *Panax arborea*; *Aralia Lessonii*; *Schœfflera digitata*; *Corokia* (2), *buddleides*, and *Cotoneaster*; *Loranthus tetrapetalus*; *Tupeia antarctica*; *Coprosma* (5), *lucida*, *tenuicaulis*, *rhamnoides*, *divaricata*, and *propinqua*; *Calceolaria Sinclairii*; *Tetranthera calicaris*; *Cassytha paniculata*; *Hedycarya dentata*; *Pimelea* (4), *longifolia*, *virgata*, *prostrata*, and *Urvilleana*; *Elatostemma rugosum*; *Ascarina lucida*; *Podocarpus dacrydioides*; *Freycinetia Banksii*; *Hypoxis hygrometrica*; *Loxsoma Cunninghamii*; *Adiantum* (2), *aethiopicum*, and *fulvum*; *Lomaria* (3), *lanceolata*, *Banksii*, and *Fraseri*; *Asplenium* (3), *flabellifolium*, *obtusatum*, and *bulbiferum*; *Doodia caudata*; *Nephrodium* (2), *decompostum*, and *squamulosum*; *Polypodium sylvaticum*; *Gymnogramma* (2), *rutæfolia*, and *leptophylla*; *Schizæa* (2), *bifida*, and *dichotoma*; *Leptopteris hymenophylloides*; *Marattia salicina*; *Phylloglossum Drummondii*; *Lycopodium* (4), *Billardieri*, *densus*, *laterale*, and *volubile*; and *Psilotum triquetrum*.

(iv.) The Midland zone, embracing an altitude of from 500 to 1500 feet, contains: *Ranunculus* (2), *multiscapus*, and *macropus*; *Drosera spathulata*; *Pittosporum* (2), *tenuifolium*, and *eugenoides*; *Elæocarpus* [13] (2), *dentatus*, and *Hookerianus*; *Pennantia corymbosa*; *Carmichaelia* (2), *odorata*, and *pilosa*; *Metrosideros* (2), *Colensoi*, and *robusta*; *Myrtus pedunculata*; *Weinmannia racemosa*; *Ixerba brexioides*; *Panax* (2), *anomala*, and *Edgerleyi*; *Alseuosmia* sp.; *Coprosma* (2), *grandifolia*, and *robusta*; *Olea* (2), *Cunninghamii*, and *lanceolata*; *Senecio* (2), *lagopus*, and *glastifolius*; *Leucopogon fasciculatus*; *Rhabdothamnus Solandri*; *Ourisia macrophylla*; *Nesodaphne Tarairi*; *Knightia excelsa*; *Persoonia Toro*; *Santalum Cunninghamii*; *Epicarpurus microphyllus*; *Fagus Solandri*; *Libocedrus Doniana*; *Hymenophyllum* (4), *dilatatum*, *crispatum*, *flabellatum*, and *æruginosum*; *Trichomanes Colensoi*; *Davallia Novæ-Zelandiæ*; *Adiantum formosum*; *Pteris vespertilionis*; *Lomaria* (4), *fluviatilis*, *valcanica*, *elongata*, and *nigra*; *Asplenium Trichomanes*; and *Polystichum coriaceum*.

(v.) The Upland zone, embracing an altitude of from 1500 to 2500 feet, contains: *Ranunculus geraniifolius*; *Drimys axillaris*; *Viola filicaulis*; *Melicytus micranthus*; *Drosera Arcturi*; *Pittosporum Colensoi*; *Aristotelia fruticosa*; *Geranium potentilloides*; *Carmichaelia flagelliformis*; *Acæna microphylla*; *Epilobium* (2), *glabellum*, and *melanocaulon*; *Metrosideros lucida*; *Coprosma* (2), *fætidissima*, and *pumila*; *Asperula perpusilla*; *Olearia Colensoi*; *Celmisia coriacea*; *Gnaphalium prostratum*; *Gaultheria* (2), *rupestris*, and *oppositifolia*; *Epacris alpina*; *Olea montana*; *Gentiana montana*; *Logania depressa*; *Calceolaria repens*; *Veronica* (2), *lævis*, and *buxifolia*; *Exarrhena saxosa*; *Anthericum Hookeri*; *Herpolirion Novæ-*

*Zelandiæ; Calorophus minor; Uncinia (2), distans, and ferruginea; Poa levigata; Gymnostichum gracile; Gleichenia dicarpa var. alpina; Cyathea Smithii; Alsophila Colensoi; Hymenophyllum (2), bivalve, and pulcherrimum; Lomaria (3), alpina, imbricata, and minor; Polystichum vestitum; and Lycopodium (2), varium, and clavatum.*

(vi.) The Mountainous zone, comprising an altitude of from 2500 to 3500 feet, contains: *Pittosporum rigidum; Coriaria thymifolia; Geranium brevicaule; Carmichaelia nana; Epilobium linnaeoides; Ligusticum aromaticum; Panax (2), simplex, and Colensoi; Oreomyrrhis Colensoi; Coprosma (2), microcarpa, and cuneata; Olearia dentata; Celmisia incana; Wahlelenbergia saxicola; Gaultheria Colensoi; Cyathodes Colensoi; Myrsine montana; Gentiana pleurogynoides; Veronica diffusa; Pimelea Gnidia; Fagus Menziesii; Pterostylis foliata; Callixene parviflora; Cordyline indivisa; Schœnus (2) pauciflorus, and concinnus; Uncinia (2), divaricata, and rubra; Hierochloe alpina; Danthonia Cunninghamii; Hymenophyllum [14] unilaterale; Leptopteris superba; Lycopodium scariosum; and Andræa rupestris.*

(vii.) The Sub-alpine zone, embracing an altitude of from 3500 to 4500 feet, contains: *Caltha Novæ-Zelandiæ; Aciphylla Colensoi; Celmisia spectabilis; Forstera Bidwillii; Cyathodes empetrifolia; Pentachondra pumila; Myrsine nummularia; Veronica tetragona; Ourisia (2), cæspitosa, and Colensoi; Euphrasia (2), antarctica, and revoluta; Plantago (2), unifolia, and carnosa; Fagus Cliffortioides; Podocarpus nivalis; Dacrydium (2), Colensoi, and laxifolium; Phyllocladus alpinus; Caladenia bifolia; Astelia linearis; Cartha alpina; Carex acicularis; Uncinia filiformis; Agrostis (2), parviflora, var. perpusilla, and setifolia; and Usnea melaxantha.*

(viii.) The Alpine zone, or area, comprising an altitude of from 4500 feet to the line of permanent snow, contains: *Ranunculus (2), insignis, and nivicola; Geum parviflorum; Abrotanella pusilla; Raoulia grandiflora; Gnaphalium (Helichrysum) Colensoi; Senecio (2), rotundifolius, and Bidwillii; Helophyllum Colensoi; Dracophyllum recurvum; Veronica nivalis; Drapetes Dieffenbachii; Alepyrum pallidum; Oreobolus pectinatus; Carex pyrenaica; Uncinia scabra; Ehrharta Colensoi; Cataclosa antarctica; and Stereocaulon Colensoi.*

13. After all there are still several plants remaining unclassified, as to geographical distribution—*habitat* or altitude—not a few of which are among the most noble and useful of all our vegetable productions. These have hitherto not been classed as to area or zone, from their being more or less ubiquitous. The principal of them will therefore have now to be briefly considered in three separate divisions, *viz.*, (i.) Plants common to the whole North Island;—(ii.) Plants (unenumerated as to area or zone) not found in the South parts of the Island;—and, (iii.) Plants (also unenumerated as to area or zone) not found in the North parts of the Island.—

(i.) *Plants common to the whole North Island.*—among these the following may be noticed:—*Cardamine hirsuta*, in all soils and situations, to the alt. of 2500 feet. *Elaeocarpus dentatus; Aristotelia racemosa; Alectryon excelsum; Dodonea viscosa; Pelargonium clandestinum*, from the sea coast to 2000 feet; *Oxalis corniculata*, in all soils from [15] the sea to 2000 feet; *O. Magellanica*, from 500 to 5000 feet; *Edwardsia grandiflora*, in all soils from the sea to 2500 feet; *Coriaria ruscifolia*, in all soils (but not in woods) from the sea to 3000 feet; *Rubus australis*, in all soils from the sea to 2500 feet; *Acæna Sanguisorbae*, in all soils from the

sea to 3000 feet; *Fuchsia excorticata*, from the coast to 2000 feet; *Epilobium nummularifolium*, and *E. rotundifolium*, ascending to 3500 feet; *E. alsinoides, juncicum, and pubens*, to 1000 feet; *Leptospermum scoparium*, in all soils from the sea to 3000 feet; *Coprosma lucida, grandifolia, robusta, and tenuicaulis; Nertera depressa; Brachyglossis repanda; Sonchus oleraceus*, everywhere; *Wahlenbergia gracilis*, from the sea to 3000 feet; *Gaultheria antipoda*, from the coast to 3000 feet; *Myrsine salicina, australis, and divaricata; Olea Cunninghamii; Parsonsia*, sp.; *Solanum aviculare, and nigrum*, from the sea to 1500 feet; *Veronica salicifolia*, from the sea to 2500 feet; *Mentha Cunninghamii* ascending to 500 feet; *Nesodaphne Tawa* from 500 to 2000 feet; *Atherosperma Novæ-Zelandiæ*, from near the coast to 1500 feet; *Hedycarya dentata, Knightia excelsa, Pimelea prostrata*, and *P. Urvilleana*, from the coast to 1000 feet; *Podocarpus ferruginea*, from near the coast to 3000 feet; *P. spicata*, from 500 to 2500 feet; *P. Totara*, from the sea coast to 3000 feet; *P. dacyriodoides*, from the coast to nearly 1000 feet; *Dacrydium cupressinum*, from 500 to 2500 feet; *Phyllocladus trichomanoides*, ascending to 3000 feet. The Orchideous genera, *Earina, Dendrobium, Bolbophyllum, Thelymitra, Microtis, and Acanthus. Phormium, tenax, and P. Colensoi*, and their vars., in all soils and situations, from the sea coast to 4000 feet; *Cordyline australis*, in all soils and situations, from the coast to 3000 feet; *Areca sapida*, from 200 to 1500 feet; *Rhipogonum parviflorum*, in woods, from coast to 2000 feet; *Arundo conspicua*, in all soils and situations, from the coast to 2500 feet; *Cyathea medullaris*, and *C. dealbata*, from 200 to 2000 feet; *Dicksonia squarrosa*, from 500 to 1500 feet; *Hymenophyllum multifidum, dilatatum, polyanthos, and demissum; Trichomanes reniforme, and T. venosum; Pteris esculenta*; in all soils not wholly wet, from the coast to 3000 feet; *Lomaria procera*, and its vars., in all soils and situations, from the coast to 4000 feet; *Niphobolus rupestris; Bolrychium Virginicum*, in open lands, from the coast to 1600 feet; and *Tmesipteris Forsteri*, epiphytic, in forests from 300 to 2500 feet.

(ii.) *Northern plants, occupying more than one area or zone, not found in the South parts of the Island.*—among these, are,—*Drosera binata*, a Bay of Islands plant, has been very sparingly detected so far south as 39°30'. *Dysoxylum spectabile*, not uncommon from the Bay of Islands to the Thames, has also been detected as far south as the river Mohaka in Hawke's Bay; extreme altitude, 1000 feet. *Metrosideros tomentosa*, a littoral plant from the North Cape to Tolaga Bay, (c.) *Alseuosmia*, sp. [16] whose chief habitat is around the Bay of Islands, where, in shady dry woods, it is plentiful; *A. macrophylla*, was found at Te Whau, Manukau Bay, in 1841; and, subsequently, a few plants of *A. Banksii* in one spot in the dense forest between the river Manawatu and Wairarapa, but none intermediate ascending to nearly 1000 feet. *Geniostoma ligustrifolium*, abundant at the Bay of Islands, and farther north, ascending to 1200 feet; a straggling plant (having thicker leaves) has been seen as far south as the woods at Hawke's Bay; the only plant, however, noticed south of the East Cape. *Vitex littoralis*, a tree very plentiful at the north, extending quite across the Island, and growing as diffusely on the immediate sea coast as on the high lands, ascending to 1500 feet; is little known south of the East Cape; one tree however is said to be on the islet Mokoia in the large lake at Rotorua, and one is also at Table Cape (north side), its extreme southern limit. *Avicennia officinalis*, a maritime plant, very plentiful from the North Cape to about 37½°

south; the mouth of the Waikato river on the west, and within Tauranga harbour on the east coast, being its south limits. *Persoonia Toro*, has not been met with south of Whangarei Bay. *Santalum Cunninghamii*, and its vars., plentiful at the north, has not been noticed south of 38°; yet, at the head of the Wairarapa valley, (just at the entrance of the long forest) in about 41° south, two trees were most unexpectedly found standing together; no more however were detected in a journey of 3–4 days through that forest, performed on several occasions. *Trophis opaca*, (or, *Epicarpurus microphyllus*) has its south limits at Tolaga Bay, or about 39° south. *Dammara australis*, which grows from the sea side to an altitude of 1500 feet, in nearly all soils and situations, (though its favorite soil is a stiff sterile clay) is very plentiful quite across the Island from the North Cape to the Thames, but has its limits on the east coast at 37½° south, and on the west coast at Kauri river (Kawhia), 38° 4' south, where are a few stunted trees. The writer well remembers seeing, in 1841, a straggling tree on the west bank of river Waikato, a little below Ngaruawahia.

*Libocedrus Doniana*, keeps always in the interior on high ground (500 to 2000 feet), from 35° to the Thames seems to be its limits. It is, however, strongly suspected, that there are two species of this genus in the North Island; the *Libocedrus* growing in dense thickets on the Ruahine Mountains, has never yet been found in fruit<sup>235</sup> and appears in foliage different from the Bay of Islands plant, which is also of more robust growth. [17]

*Phyllocladus trichomanoides*, which is plentiful at the north, from about 35° south, (where it has been observed growing from the sea-side to 1200 feet altitude) has its southern limits at 39½° south, in the mountains inland west from Hawke's Bay. *Arthropodium cirratum*, a common littoral north plant, has its south limits at Cape Kidnappers, in 38°50' south. *Trichomanes elongatum*, has not been met with south of the Thames. *Loxsoma Cunninghamii*, for a long time only found at one spot (the noted Kerikeri waterfall in the Bay of Islands) has been also met with at Whangarei, and in the Coromandel ranges. *Doodia caudata* (or, *media*), so very common at the north, has not been seen south of the Thames, except in one locality near Napier; which plant, however, may prove to be a distinct species. *Gymnogramma leptophylla*, plentiful near the head of Manukau Bay, has only been again met with at Ahuriri and Cape Kidnappers. *Lygodium articulatum*, a northern plant, has not been, noticed south of the East Cape; and *Schizaea dichotoma* appears to be wholly confined to the *Dammara* (Kauri) forests.

(iii.) *Plants found plentifully in the southern parts of the North Island, but rarely, if ever, extending north beyond the East Cape.*—Among these the following may be noticed:—*Elaeocarpus Hookerianus*, extends north to Tolaga Bay; *Hypericum gramineum*, from the coast to 600 feet altitude, has not been noticed north of Table Cape. *Coriaria thymifolia*, (several varieties), from the sea coast (Hawke's Bay) to 4000 feet, has not been generally met with north of Poverty Bay; but the very small leaved species, *C. angustissima*, was found, in 1838, on Mount Hikurangi, East Cape, and, subsequently, near the summits of the Ruahine range, at an altitude of 4500 feet. *Discaria Toumatou*, a coast plant, has not been detected north of Poverty Bay. *Potentilla anserina*, and *Geum Magellanicum*, extend from Cook's Straits to the East Cape. *Aciphylla squarrosa*, found from the sea coast to 3500 feet altitude,

has not been noticed north of 40°30' south. *Craspedia fimbriata*, several varieties, from the coast to 1000 feet, extends north to the East Cape. *Microseris Forsteri*, common near the coast, has its north limit about Poverty Bay; where, too, it is very plentiful. *Taraxacum Dens-leonis* growing sparingly with the former, but often rising to much higher elevation of 3000 feet, has not been detected north of Tolaga Bay. *Ourisia macrophylla*, found plentifully at from 1500 to 3000 feet, has not been seen north of Poverty Bay. *Calceolaria Sinclairii* [18] and *Euphrasia cuneata*, coast plants, (rising, however, to 500 feet) have their north limits at the East Cape. *Myosotis*, and *Exarrhenia*, several species, met with in both dry and damp spots from the sea coast to an altitude of 2000 feet, are unknown north of the East Cape. *Fagus fusca*, found in the interior at an altitude of from 500 to 2500 feet, has not been seen north of Poverty Bay (*e.*); while *F. Solandri*, a species found much nearer the sea, and attaining to a higher elevation of 4000 feet, reaches nearly to the East Cape. *Zannichellia palustris*, has not been noticed north of Table Cape; while its aquatic congener, *Lemna gibba*, reaches Poverty Bay. Of Ferns, peculiar to the Southern parts of the Island, may be noticed,—*Hymenophyllum bivalve*, *H. pulcherrimum*, and *H. aeruginosum*, which extend throughout damp forests in the interior, at an elevation of 2000 feet, to about 38° south their north limit. *Davallia Novæ-Zelandiæ*, has been found as far north as the Bay of Plenty. *Lomaria elongata*, and *L. nigra*, at an elevation of 1000 to 1600 feet, extend plentifully north, from Wairarapa near Wellington, to 38° south. Small specimens, however, of *Lomaria elongata* have lately been found near Wellington. *Polypodium sylvaticum*, (a scarce fern) at a lower elevation, from Wellington to Tolaga Bay 38° 30' south; and *Leptopteris superba*, at an altitude of from 2000 to 3000 feet, extends north to about 38° south.

14. It has already been shown, how widely spread and common many of the plants of this North Island are; nevertheless, there are some, both genera and species, which (as far as is known) are peculiarly local. This, it is believed, is a characteristic feature in the Botany of New Zealand; one which (if hereafter proved to be real) will be worthy of deep consideration,—as to the why such should be. A few of the more strikingly local plants, hitherto only found in one small spot, are here enumerated, with their known habitats:—*Clematis depauperata* (*n.*), near Hawke's Bay. *Myosurus aristatus*, Palliser Bay. *Ranunculus geraniifolius*, (*n.*) between [19] Mount Tongariro and Ruahine mountain range. *Drosera pygmaea*, Cape Maria Van Diemen; *Drosera Arcturi*, at Taupo, near the base of Tongariro. *Stackhousia minima*, (*n.*) Hawke's Bay. *Geum parviflorum*, summit of Rauhine range, east side, 5,000 feet altitude. *Gunnera prorepens*, (*n.*) Flat Point South East coast. \**Meryta Sinclairii*, (*n.*) Whangaruru Bay. \**Angelica geniculata*,<sup>236</sup> Hawke's Bay. *Loranthus Colensoi*, (*n.*) Waikare Lake. *Coprosma repens*, (*n.*) between Mount Tongariro and Ruahine range; and *C. petiolata*, (*n.*) between Castle Point and Pahawa. *Cotula perpusilla*, (*n.*) Turakirae, Palliser Bay. *Abrotanella pusilla*, (*n.*) near the top of Ruahine range. *Gnaphalium (Helichrysum) Colensoi*, (*n.*) summit of Ruahine range, east side. *Forsteria Bidwillii*, west side of Ruahine range, 4000 feet altitude. *Helophyllum Colensoi*, (*n.*) summit of Ruahine range, 5000 altitude. *Myrsine*

235 WC: Since made a new species by Dr. Hooker:—L. Bidwillii.

236 WC: Of those marked with a star (\*) before them, a single plant only has been seen; the letter *n.* after the name, denotes such to be a new species.

*nummularia*, (n.) west side of Ruahine range, 4500 feet altitude. \**Logania depressa*, (n.) between Taupo and Ruahine. *Calceolaria repens*, (n.) west base of Ruahine. *Exarrhena saxosa*, (n.) Hawke's Bay. *Utricularia protrusa*, (n.) Bay of Plenty. *Cassytha paniculata*, near Mount Camel. *Ascarina lucida*, (n.) three trees growing together in a swamp, at Wairarapa. *Spiranthes australis*, Upper Waikato. *Adenochilus gracilis*, (n.) near Lake Waikare. *Anthericum Hookeri*, (n.) between Mount Tongariro and the west base of Ruahine. *Hymenophyllum unilaterale*, (according to Dr. Hooker, but a sp. nov. mihi) on one tree only, but plentiful upon it;—in the dense forest, west side of Ruahine range, 3000 feet altitude. *Trichomanes Colensoi*, (n.) near Lake Waikare. *Adiantum formosum*, only, in one spot in the dense forest between Wairarapa and Manawatu. *Hypolepis millefolium*, (n.) near the top of Ruahine range, east side. *Asplenium Trichomanes*, Hawke's Bay. *Gymnogramma ruteifolia*, near Cape Palliser. *Grammitis rufusvillosa*, (n.) three specimens only, growing together in the dense forest, east base of Tararua range. *Riccia natans*, in the little lake Roto-akiwa, Hawke's Bay; and *Riccia fluitans*, at the head of Wairarapa valley.

15. The North Island of New Zealand also contains several wellknown European plants, which were found here by her earlier scientific visitors;—(exclusive of the host of common plants which have come in with colonization;)—some of which, curiously enough, have not been found elsewhere in the Southern Hemisphere. Those European plants (several of which are cosmopolites) are of the following natural orders, vis:—Cruciferæ, 3; Caryophylleæ, 2; Malvaceæ, 1; Geraniaceæ, 2; Oxalideæ, 1; Coriarieæ, 1; Rosaceæ, 2; Onagrariae, 1; Halorageæ, 1; Compositeæ, 5; Solaneæ, 1; Chenopodiaceæ, 4; Naidaceæ, 3; Aroidæ, 4; Juncæ, 3; Cyperaceæ, 6; Gramineæ, 4; Filices, 7; and, Lycopodiaceæ, 1;—total species, 57. It is worthy of remark, that not a single species is hard-wooded, scarcely even a shrub, save *Coriaria ruscifolia*;—total that many of them are sea-side and water plants, identical to those found in Great Britain. [20]

16. Before, however, any comparison is attempted between the Botany of New Zealand (North Island) and that of other lands, it will be advantageous further to consider such genera and species peculiar to the Island—or to the New Zealand groupe—as are real and well-developed; and which, united, form the characteristic New Zealand Botany. Not but that a genus may be (and often is) quite as well developed by a single species, as by a number. (Witness, that unique New Zealand plant, *Phylloglossum Drummondii*; which single species, at present, not only constitutes a genus, but which, by eminent continental Botanists, had very nearly been made the type of a new Natural order!) A genus, although not endemic, may properly enough be said to be “well-developed” in New Zealand, if better species are found, or if more abundantly met with, here than in other countries;—if, in fact, New Zealand clearly seems to be its centre, its home. Several of our New Zealand genera were created by her first Botanical visitors;—Banks and Solander, and by Forster aided by Sparmann (f.); the younger Linnæus, D'Candolle, and R. Brown, also made a few. A. Cunningham increased the number considerably from the Bay of Islands' plants; and, more recently, Dr. Hooker has both confirmed their genera, and added considerably thereto. Already (*pars. 9 and 10*) the phænogamic genera and species endemic to the North Island, as far as known, have been enumerated; and it now remains to show the well-developed New Zealand genera,

and peculiar species of the North Island, comprising those which mainly give that peculiar contour—*tout-ensemble*—to her vegetation, in order to the better contrasting of her Botany with that of other lands.

17. The phænogamic genera which are truly and pre-eminently New Zealand, are:—\**Melicytus*, *Hoheria*, *Entelea*, *Melicope*, *Corynocarpus*, *Carmichaelia*, *Carpodetus*, *Ackama*, *Ixerba*, *Aciphylla*, *Griselinia*, *Corokia*, *Tupeia*, *Alseuosmia*, \**Coprosma*,<sup>237</sup> (also found in Tasmania, but here it has upwards of twenty-five species), *Rouelia*, *Helophyllum*, *Colensoa*, *Geniostoma*, *Rhabdothamnus*, *Teucrium*, *Nesodaphne*, *Knightia*, *Elatostemma*, *Earina*. *Adenochilus*, *Nematoceras*, and \**Phormium*;—yet, of these twenty-eight genera, scarcely half of the number are of that class which give the characteristic appearance or stamp to New Zealand Botany. Of those which are more noticeable, several are either very local in area, or only occasionally met with. It is, then, to the distinct New Zealand species of genera which her Botany has in common with other lands, that so much is due for characteristic [21] vegetable appearance as well as for utility. At the same time, not a few of these will be found to be confined (so to speak) to the New Zealand Botanical region. Among the more important and prominent of such species are the following:—*Drimys axillaris*; *Hymenanthera crassifolia*; *Pittosporum*, upwards of 10 species; *Plagianthus*, 2 species; *Elaeocarpus*, 2 species; *Aristotelia*, 3 or 4 species; *Pennantia corymbosa*; *Alectryon excelsum*; *Dysoxylum spectabile*; *Pelargonium clandestinum*; *Coriaria*, 3 or more species; *Pomaderris*, 3 species; *Discaria Toumatou*; *Clianthus puniceus*; *Edwardsia grandiflora*; *Acæna* 3 species; *Fuchsia*, 2 species; *Epilobium*, nearly 20 species and wellmarked varieties; *Haloragis*, 4 species; *Metrosideros*, 10 species; *Leptospermum*, 2 or more species; *Myrtus*, 4 species; *Weinmannia*, 2 species; *Ligusticum* and *Angelica*, 16 species; *Panax*, 10 species; *Olearia*, 20 species; *Celmisia*, 24 species; *Forstera*, 2 species; *Dracophyllum*, 14 species; *Myrsine*, 5 species; *Calceolaria*, 2 species; *Veronica*, 40 species; *Ourisia*, 6 species; *Vitex littoralis*; *Myoporum laetum*; *Laurelia Novæ-Zelandiæ*; *Trophis opaca* (or, *Epicarpurus microphyllus*); *Pimelea*, 10 species; *Fagus*, 5 species; *Dammara Australis*; *Libocedrus*, 2 species; *Podocarpus*, 5 species; *Dacrydium*, 3 species; *Phyllocladus*, 2 species; *Rhipogonium parviflorum*; *Anthericum Hookeri*; *Cordyline*, 5 or more species; *Astelia*, 5 species; *Areca sapida*; *Arundo conspicua*; *Cyathea*, 4 species; and *Dicksonia*, 3 species.

18. Those genera principally belong to the south temperate zone, where their habitat is mostly insular, and not unfrequently of the same meridionals with the New Zealand groupe. This is in strict accordance with what might have been expected—that from Norfolk Island in the north down to the Antarctic Islands in the South, including the Chatham Islands, the same genera would be found; and, in many instances, there are not only the same genera to be met with, but the same species. Moreover, it should not be forgotten that the majority of those genera are very small, some having only two species each, (as *Alectryon*, *Dysoxylum*, *Knightia*, and *Rhipogonium*) others, only three or four, (as *Hymenanthera*, *Pennantia*, *Clianthus*, *Edwardsia*, *Atherosperma*, *Dammara*, and *Phyllocladus*) and these are only found as single species in their various habitats; and of

237 WC: The genera marked thus\*, are also found in Norfolk Island.

others, containing from 5 to 10 species each, (as, *Plagianthus*, *Aristotelia*, *Forstera*, *Oursia*, *Cordyline*, *Astelia*, *Podocarpus*, and *Dacrydium*) the greater number of species of each genus are to be found in New Zealand; so that New Zealand (the North Island) may not inaptly be [22] deemed their centre, or home. Further still, (in the midst of much apparent dissimilarity, which, however, is daily lessening) there is a very great concord, or botanical affinity, between the vegetation of the various islands lying in or about the same parallels of south latitude. A belt around the globe, containing the Chatham Islands, Juan Fernandez, South Chili, the Fuegian and Falkland groupes, Tristan d'Acunha, the Cape, Kerguelen's Land, St. Paul's Island, Tasmania, the South-east coast of Australia, Lord Howe's Island, the Middleton group, and Norfolk Island, all contain the same genera, and in not a few instances (particularly in the smaller islands) the very same species. And this will be much more evident when the *whole* of the Botany (*i.e.*, including the numerous smaller cryptogams,—*Musci*, *Hepaticæ*, *Algæ*, *Fungi*, and *Lichenes*) of those countries is collectively considered; particularly of those, however distant from each other, which partake the same isothermal and humid climate. If, instead of writing on the Botanical Geography of the Northern Island *alone* of the New Zealand groupe, I were writing on that of the *whole* groupe, and, at the same time, possessed that necessary intimate botanico-geographical and geognostical knowledge of the interior of the Middle and Southern Islands which I possess of the Northern Island—I should be in a far better position for comparing the botanical geography of New Zealand with that of other lands, lying within or near the same parallels of south latitude than I now am; and, from what I already know, I believe, that hereafter, and only in some such way, can the botanical geography of the New Zealand groupe be truly and efficiently shown and compared. Nevertheless, this cannot presently be done; for (to use the words of Dr. Hooker) "the subject is one that cannot be fully worked out without far more materials than have hitherto been collected....When the floras of the monntains of South Chili, New Zealand, South Tasmania, the Australian Alps, the Crozets, Prince Edward's Island, Amsterdam Island, St. Paul's Island, and; Macquarie Island," [and of all other islets lying south of 27° south.] "shall have been properly explored," [together with their geology and climate,] "the great problem of representation and distribution in the South Temperate and Antarctic Zone will be solved." <sup>238</sup>

19. Referring again to those genera, which, though not endemic, possess characteristic New Zealand species, the following will be found to be their geographical distribution,—including, also, a few species that are identical—*Myosurus aristatus*, a plant of the Chilian Andes; [23] *Drimys*, a small genus of only three species, one of which, the celebrated Winter's Bark (*D. Winteri*), is confined to Fuegia, and another has recently been found so far north as the alpine mountains of Borneo; but the New Zealand plant, (*D. axillaris*) is very closely allied to a kindred plant much nearer home (one of another very small genus of two or three species) the *Tasmania aromatica* of Tasmania. *Hymenanthera*, (a genus of only four species) has a species in New Zealand, one in Norfolk Island, another in Tasmania, and another in Australia. *Pittosporum*, has about a dozen, species in Australia, and one in Tasmania, but "the maximum of this genus will probably be

found in the Pacific Islands."<sup>239</sup> *Colobanthus Billardieri*, is also found in Tasmania and Campbell's Island. *Plagianthus* has a few species in New Holland and Tasmania.

*Elœocarpus* has several species in tropical India and the Pacific Islands, and one species in New South Wales.

*Aristotelia* has species in Chili, and one in Tasmania.

*Pennantia*, a genus of only three species, one of which (*corymbosa*) is in New Zealand, one in Norfolk Island, and one on the coast of West Australia. *Alectyon excelsum* is said (by D'Candolle, with some degree of doubt) to have a single allied species in New Holland—*Dysoxylum* (*Hartighsea*), has a species in Norfolk Island, and (perhaps) another on the east coast of New Holland. *Pelargonium clandestinum* is also found in Tasmania, Tristan d'Acunha, and the Cape; to which countries this extensive genus is almost wholly confined. *Oxalis Magellanica* is also found in Tasmania and Fuegia. *Coriaria*, two, at least of its species, are common in south Chili. *Pomaderris* has several species in New Holland and Tasmania. *Discaria*, a small genus, is found in South America, Australia, Tasmania, and the Gallapago Islands. *Cianthus*, another small genus, is only again met with in Norfolk Island and New Holland.

*Edwardsia* (*Sophora*) *grandiflora*, is common in Chili, Chiloe, and Juan Fernandez; but, curiously enough, the genus is not found in Tasmania or Australia, where plants of the same natural order are so very common; this small genus only possesses some six or seven species, two of which, according to D'Candolle, are confined to the Isle of Bourbon. *Acena* has two species in Tasmania and Australia, (one of them being the common New Zealand one) and several in South America, and in the Antarctic and

Kerguelen's Islands. *Fuchsia*, a large genus; yet, out of New Zealand, is only found in South America, from Mexico to the Straits of Magellan. *Epilobium*, an extensive European genus, is also found in [24] South-east and South-west

Australia, in western South America, in the Antarctic Islands, and in Tasmania; but "is more abundant in New Zealand than in any other part of the globe,"<sup>240</sup> the six species found in Tasmania are all natives of New Zealand.

*Haloragis*, is found in South-east Australia, Tasmania and Juan Fernandez. *Metrosideros*, in South Chili, the Cape and Australia. *Leptospermum*, in South-east Australia and Tasmania. *Myrtus* in Chili and at Cape Horn. *Montia fontana*, the only plant of this genus, is also abundant at Cape Horn, Kerguelen's Land, the Antarctic Islands and Tasmania. *Weinmannia*, at the Cape, Madagascar, the Isle of [25] Bourbon, Tahiti, and South Chili. *Ligusticum* and *Angelica*, several species in the Antarctic Islands. *Panax*.—

Our New Zealand species have close alliance with species in the Antarctic Islands and Chili; one small species alone of this genus is found in Tasmania, the only representative in that island of the natural order (*Araliaceæ*) to which it belongs! of which order also, only 8 or 10 species are found in Australia! *Meryta*, a singular genus of only 4 or 5 species, two of which are found in Norfolk Island, and one in Tahiti. The fine Composite genera, *Olearia* and *Celmisia*, are also found in Australia and Tasmania; the latter genus, however, so well developed in New Zealand, is only feebly so by a single species in each of those two countries. Of the smaller Compositeæ, *Lagenophora*, a small genus, is also found in Antarctic America, the Falkland Islands, Australia and Tasmania. *Abrotanella* is confined to New Zealand, Tasmania, the Antarctic Islands, Fuegia, and Kerguelen's

239 WC: Flora Tasmaniæ, vol. I., p. 38.

240 WC: Flora Tasmaniæ, vol. i., p. 116.

Land; and *Microseris*, a genus of only two species, is found in Tasmania and West Chili. *Olea* has a closely allied species in Norfolk Island, and others at the Cape, Mauritius, and Bourbon. *Sapota costata* is also found in Norfolk Island. *Forstera* is confined to New Zealand, Tasmania, and Fuegia. *Dracophyllum*, so well developed in New Zealand, extends south to the Antarctic Islands, east to the Chatham Islands, and north to New Caledonia; one species is also found in New South Wales. The large tropical genus *Myrsine*, containing above 80 species, of which 50 are Brazilian and Indian, and 30 insular,—from the West India Islands to the Sandwich Islands and Borneo, and southwards in Norfolk Island, New Zealand, and the Antarctic Islands, is not found in Tasmania, (where there are no plants of the whole natural order) and has only three species, in Australia. *Geniostoma*, a small and wholly insular genus of only 3 species one of which is found in the Isle of Tanna, and another in the Isle of Bourbon. *Calceolaria* (another curious instance like that of *Fuchsia*) is only found besides in Western South America, where it is common. *Veronica*, a large cosmopolite genus, is comparatively scarce in Tasmania and Australia, it abounds however throughout the New Zealand group and the Antarctic Islands, and is also found in the Falklands. *Ourisia* is found in Fuegia, and has one small species in Tasmania. *Myoporum* in Tasmania and South East Australia. *Atherosperma*, a very small genus containing only 3 other species, one of which is found in Tasmania and one in South Chili. *Pimelea* is well represented in Australia and Tasmania, while *Knightia* has only one other species, and that in New Caledonia. *Drapetes*, a small genus of only 4 species, one of which is found in Fuegia, and another as far north as the alpine mountains of Borneo. *Australina*, a curious small genus of only 2 species, one of which is in Tasmania. *Elatostemma*, another small genus, has a second species in the Society Islands. *Euphorbia glauca* is also found in Norfolk Island. *Piper excelsum* is also found in Norfolk Island, and has allied species in the Fiji, and other South Sea, Islands; so also has *Peperomia*. *Ascarina*, a small genus of only 2 species, one of which is in the Sandwich Islands. *Fagus*, a genus in the Southern Hemisphere, confined to South Chili, Fuegia, Tasmania, and New Zealand. *Dammara*, a small genus, one species of which is found so far north as La Perouse's, or Vanicolla, Island, (11° 40' S. 167° 0' E,) which, with another species said to be in the Fiji Islands, are all that are known in the Southern Hemisphere. *Libocedrus (Thuja) Doniana*, is closely allied to the "Alerse," a highly useful species (*Thuja tetragona*) found in South Chili. *Podocarpus* is found in South Chili, and one small bushy species is found in Australia and Tasmania. *Dacrydium* has one noble species in Tasmania (the celebrated "Huon Pine"), and several in the Polynesian Islands. *Phyllocladus*, a small genus of 4 species, one of which is in Tasmania, and one has lately been discovered so far north as the alpine mountains of Borneo. Most of the New Zealand Orchideous genera (and some of the species) are found in Australia, Tasmania, and the Antarctic Islands. *Rhipogonium*, (a genus of only 2 species) has one species in New Holland. *Callixene*, a genus of only 3 species, has two species in South Chili and in Fuegia. *Phormium* is only found besides in Norfolk Island (g). *Cordyline* has a few species in Norfolk Island, and one species in Australia. *Astelia* is found in Fuegia, Oahu, and Tasmania. *Areca sapida* is believed to be confined to New Zealand and to [26] Norfolk Island, but the genus is found in some islands of the Malay Archipelago. The 3 genera of the New Zealand Tree Ferns, *Cyathea*, *Alsophila*, and *Dicksonia*, are also found in Norfolk Island, and in

Tasmania; and of the New Zealand Ferns generally, it may be said, their southern genera and species (excluding those few which are endemic) are also found in Norfolk Island, Tasmania, South America, and, the Antarctic Islands; and, more sparingly, in Juan Fernandez, Chiloe, the Falkland group, Tristan d'Acunha, Kerguelen's Land, and the Cape.

20. Moreover, of the 3 great Natural Orders, *Leguminosæ*, *Myrtaceæ*, and *Proteaceæ*, so very common in Australia, and tolerably so in Tasmania, but very few are found in New Zealand, and, curiously enough, these few do not belong to any of the great Australian genera, such as, *Acacia*, *Eucalyptus*, *Melaleuca*, *Grevillea*, and *Hakea*. The Australian and Tasmanian species alone of the genus *Acacia* are upwards of 260 in number; and of *Eucalyptus*, *Melaleuca*, *Grevillea*, and *Hakea*, each numbers above 100 species. Not a single species however of those great genera has been found in New Zealand! Of *Leguminosæ*, of which order Australia has upwards of 900 known species, and Tasmania nearly 70, New Zealand possesses some 7 or 8 species, belonging to 3 small genera; one of which, *Camichælia*, (having 5 of the 8 species), is confined to New Zealand; and of another, *Edwardsia*, (if separated from *Sophora*, a very small genus), the New Zealand species, *E. grandiflora*, (as has been already shown, par. 19) is only found in Juan Fernandez and South Chili. Of *Myrtaceæ*, (of which order Australia has upwards of 650 known species, and Tasmania 36) New Zealand has only 15 species, belonging to 4 distinct genera; of which genera, only one (*Leptospermum*) is found in Tasmania; and another of them (*Myrtus*), which has 4 species in New Zealand, is also not found in Australia. Of *Proteaceæ*, (of which order Australia has also 650 known species, and Tasmania 22), only 2 species are found in New Zealand. Of the whole 24 or 25 species, of those 3 great natural families, found in New Zealand, only one species, the common "Tea-tree" (*Leptospermum scoparium*) is found in Tasmania and Australia; while those countries possess upwards of 2,200 known species!

21. Darwin, indeed, states, that "New Zealand in its endemic plants is much more closely related to Australia, the nearest main-land, than to any other region."<sup>241</sup> Dr. Hooker, however, (in his elaborate [27] Introductory Essay to the *Flora Tasmaniae*<sup>242</sup>), does not go so far as this, although he, too, says, "that 216 or one-fourth of the New Zealand Phenogams are natives of Australia, and of these 115 species are confined to these two countries;" and, "that of the 115 specimens peculiar to Australia and New Zealand, only 26 belong to genera peculiar to those countries, and only 6 to the long list of Australian genera which contain upwards of 20 species each." Nevertheless it is believed that this comparison will be very materially altered, when the whole of the Flora of New Zealand (and the many other Polynesian Islands) shall be fully known. Already, since the publication of the *Flora Nova-Zelandie*, have many new species been discovered in New Zealand, particularly in the Middle Island; where too, are several South American genera hitherto not detected in the North Island, (as *Donatia*, *Rostkovia*, *Gaimardia*, &c.), and, consequently, not referred to in this Essay. And of those 26 species belonging to genera at present only common to Australia and New Zealand, may it not reasonably be expected, that some of these will be also found in the many unexplored sub-tropical

241 WC: Origin of Species, chap. xii.

242 WC: Page IXXXViii.:—An admirable work, well worthy the serious study of every student of New Zealand Botany.

islands? Again, seeing that the striking characteristic Australian genera (while found in Tasmania) are wholly wanting in New Zealand; and that the characteristic New Zealand genera are also (as such) wanting in Australia; is it not evident, that it is not so much from what *is* (the positive), as from what is *not* (the negative), that the better comparison can in this case be drawn, and the truer Botanical affinity deduced? Reviewing, then, what is already known of New Zealand and Southern insular Botany, and looking forward expectingly to future kindred revelations, it is not unreasonably believed, that the Botany of the New Zealand group will be found to be peculiar, and *not* so closely related with the nearest main-land (Australia), as with many other small islands, and therefore, forming with them a Southern Botanical insular region, of which New Zealand is probably about the existing centre.

22. In bringing this necessarily imperfect outline of the Botanical Geography of the North Island to a close, many such thoughts as the following present themselves for consideration:—

Is there a natural law affecting the dissemination of plants?

Is a climatic, or geognostic, difference, of greater value than a mere geographical one? [28]

Did cosmopolite genera, or species, proceed from a single germ, or centre? and, if so, how did they reach the extreme outposts?

Did endemic genera and species proceed from a single germ or centre? and, if so, can that centre be found?

How is it, that of some insular genera (*e.g.* *Coprosma*), there are many species and varieties; while of others (*e.g.* *Corynocarpus*, *Geniostoma*, *Carpodetus*), there is only one?

Were all such genera created simultaneously? and the large genus with all its species and varieties?

Are genera having many species older than those having only one; or *vice versa*?

May not the several species and varieties of an insular, or endemic, genus, be validly considered as having originally sprung from one species or plant?

Why are several species of the numerous-seeding and easily-distributed Natural Order *Compositae* so comparatively scarce and very local? *e.g.*, several species of the genus *Celmisia*; the New Zealand “daisies,” *Brachycome Sinclairii*, and *B. odorata*; *Gnaphalium prostratum*, and *G. Colensoi*; *Senecio Greyii*, and *S. perdicoides*; and *Taraxacum Dens-leonis*? *Senecio perdicoides* has not been found by any Botanist since Cook’s visit. *Senecio Greyii*, although producing its fine flowers by hundreds, is very local, hitherto only met with in one rocky spot. And the small indigenous *Taraxacum Dens-leonis* is, comparatively, very scarce; while the larger introduced plant is rapidly becoming a perfect pest, growing, together with the English daisy, by hundreds and thousands.

Does New Zealand (with the islets lying north and south) possess a peculiar Botany of her own?

Is New Zealand the centre of this Botanical region, at least as regards New Zealand species found north and south of her?

How is the isolation of certain species to one peculiar plant, spot, or locality, (as stated in par. 14), to be accounted for? This last thought is never more strongly felt, than when on the tops of a secluded mountain range, or in the depths of a deep untrodden glen, *one*, or a few plants of any species are

found, but no more; perhaps no more in the island! or, at all events, no more have been detected after several years of diligent research. How is this to be accounted for, if all present species were created as they now are, and at one time? There, in its *habitat*, everything has for years—or ages—combined to favor the growth and spread of that plant; but, although flourishing, [29] it has not spread. Are we to infer from its scarcity, that it is but a creation of yesterday? or, the lingering relic of a past race? or a new form, or a sportive hybrid of Nature?

Lastly: May future varieties in certain species be hereafter the more reasonably expected to take place in New Zealand,—or *vice versa*,—through Colonization, and through the introduction of con-generic plants, of honey-making insects, and of insectivorous birds?.... .

### §III.—ECONOMIC.

23. In considering the Economic Botany of this Island, the past should not be wholly omitted. It cannot, at least, be uninteresting to know something of those plants which, for a long period, were of the utmost importance to the race which preceded the Colonists on these shores; and to which a large population was mainly indebted for food, for clothing, and for numerous articles of utility and of ornament. Such an enquiry, however brief, is become the more necessary from the fact, that, owing to the great and growing disuse of many of those plants, which were formerly prized and sought after, the knowledge of their qualities and uses is rapidly becoming forgotten. It is therefore proposed to shew, with reference to the past,—(i.) the plants used as food; and (ii.) those of utility and ornament, to the New-Zealander of former days.

(i.) The vegetable articles of food not introduced by Europeans used by the Natives of this Island were tolerably numerous, however inferior the qualities of many of them might be. Most, however, were only obtained through much labour; which, no doubt, contributed not a little towards the robust health of the consumers. Those foodyielding plants may be thus placed:—(1.) Main articles of food; and (2.) smaller fruits and vegetables commonly used, including those only resorted to in times of great scarcity.

(1.) The main, or staple, articles of vegetable food, were but few in kind. They comprised, those cultivated, and those which were wild. The cultivated vegetables were only three in number; and which (curiously enough, and like the garden produce of many other countries), were not indigenous. These were—two roots, and one gourd-like fruit; the Kumara, or sweet potato, (*Convolvulus Batatas*), the Taro (*Caladium esculentum*), and the Hue, a large kind of gourd, a [30] species of *Cucurbita*. Of the first, the Kumara, they had a large number of varieties, widely differing from each other in quality, appearance, and colour; which, of itself, is a highly puzzling problem, seeing the plant in this country never flowers. Of this root, most valuable to them, they must have raised immense quantities annually. An operation requiring unceasing care and toil on their part, as they generally fresh gravelled their plantations every year; and which, combined with the great care required for the raising, keeping, and preservation of this root, could only have been effectually done through the beneficial influence of the *taboo* (*tapu*). Of the second, the Taro, they had also several distinct varieties (exclusive of the inferior kind called by them, Taro-hoia, which, with many other roots, was introduced by Europeans); they also

ate the thick succulent stems of this plant, as well as its root, and sometimes its leaves. A large flourishing Taro plantation is one of the most beautiful cultivations the writer has ever seen. These were planted in regular quincunx,—the soil evenly laid, and strewed with white sand, and patted with their hands, giving such a relief to the elegant large shield-like dark-green versatile leaves of the Taro, drooping gracefully from their thick clean redbrown stalks,—and were scrupulously kept in perfect order. This plant very rarely flowers, and it has never been known to produce seed. The third, the Hue, which is only propagated by its seeds, is very constant to its kind, although it varies much in size and shape, and has no varieties. The staple uncultivated articles of vegetable food were three fruits,—the well-known Fern-root, and the wild Sowthistle. Those three fruits are peculiar to the country, and comprised the Hinau (*Elaeocarpus dentatus*), the Karaka (*Corynocarpus laevigata*), which was often planted about their villages; and the Tawa (*Nesodaphne Tawa*). Those berries (*drupæ*) were not however, such as are generally known to civilized nations by the name of edible fruits; being scarcely so (especially those parts of them which were mainly used), save through long and necessitous habit. Although those fruits were yielded spontaneously and in abundance where the trees producing them grew, yet the gathering, preparing, and storing them, so as to be kept fit for food, was no light labour. The kernels of the Karaka, after due preparation, would remain sound some time in a dry store, but not near so long as those of the Tawa. Much labour, too, was required to procure and fit the Aruhe, or root of the common Fern of New Zealand (*Pteris esculenta*) for food; while the spots producing fern-root of best quality were by no means common. The Puwha, [31] or Milk-thistle (*Sonchus oleraceus*), the large-leaved variety, was common, though not (it is reasonably suspected) too plentiful; and this was abandoned for the smaller leaved European kind (after its introduction) as being less bitter and more palatable.

(2.) The smaller fruits and vegetables invariably used while in season comprised, (a.) those which were largely and commonly used:—*vis.*, the fruit of the Tutu, or Tupakihi (*Coriaria ruscifolia*), the pleasant juice of which in the early summer was drank with avidity in large quantities. The berry of the Kohutuhutu, or Kotukutuku (*Fuchsia excorticata*); the Kohoho, or Poroporo, (*Solanum aviculare*), which, too, was sometimes planted; the fruits of the five following timber trees,—the Miro (*Podocarpus ferruginea*), the Mataii (*P. spicata*), the Totara (*P. Totara*), the Kahikatea (*P. dacrydioides*),—the fruit of which was called Koroi,—and the Rimu (*Dacrydium cupressinum*); and also the fruit (Ureure) and sugary bract-like spadices (Tawhara) of the climbing plant Kiekie (*Freycinetia Banksii*,). The watery honey from the perianths of the Korari (*Phormium tenax*, and *Ph. Colensoi*), was also eaten and collected in large quantities; and so was a similar substance from the flowers of the Pohutukawa (*Metrosideros tomentosa*). (b.) those which were less often used:—the curious red fruit (*arillus*) of the Titoki, or Titongi, (*Alectryon excelsum*); the fruit of the Tutu-papa (*Coriaria thymifolia*); of the New Zealand Bramble, Tataramoa, (*Rubus australis*); of two of the New Zealand Myrtles, the Ramarama (*Myrtus bullata*), and the Rohutu (*M. pedunculata*); of several species of *Coprosma*,—particularly of the Karamu (*C. lucida*, and *C. robusta*), of the Papaauma (*C. grandifolia*), and of the two littoral species, Taupata (*C. retusa*), and Tataraheke (*C. acerosa*); of the Koropuku (*Gaultheria depressa*); of the Poroporo

(*Solanum nigrum*; of the Kawakawa (*Piper excelsum*); and of the Kareao, or Pirita, (*Rhipogonum parviflorum*). The pollen also of the flowers of the large Bulrush (*Typha angustifolia*), was extensively collected in its season by the Southern tribes, and made into large gingerbread like cakes, called Pungapunga. Besides which the following roots and plants were often eaten, *vis.*, the roots (cooked) of the Panahi (*Calystegia sepium*); of the Maikaika (*Arthropodium cirratum*); the tubers of several small Orchideous genera, such as several specimens of *Thelymitra*, of *Microtus porrifolia*, of *Orthoceras strictum*, and of *Gastrodia Cunninghamii*, containing “s alep;” the roots of the little sugary Ti-koraha (*Cordyline stricta*), of the large Ti, or “Cabbage Tree” (*C. australis*), and of the large Fern, Para, (*Marattia salicina*). Also, the cooked leaves and herbaceous tops of [32] the Toi (*Barbarea Australis*), and of the Poroporo, or Raupeti (*Solanum nigrum*); and the baked inner stems and sago-like pith of the large black fern tree, Korau, or Mamaku, (*Cyathea medullaris*). The young succulent unexpanded shoots of several ferns, such as those of *Pteris esculenta*, *Asplenium lucidum*, and *A. bulbiferum*, and *Botrychium Virginicum*; several Fungi, chief among which were the four following, which grow on trees,—the Harori (*Agaricus adiposus*), the Hakeke, and the Popoiahaeke (*Polyporus* species), and the Pekepekekiore (*Hydnellum clathroides*); also, three terrestrial ones,—the Paruwhatitiri (*Ileodictyon cibarium*), the Pukurau (*Lycoperdon Fontainesii*), and the curious species *Aseroe rubra*. The young inner blanched leaves and heart of the Ti, or “Cabbage-tree” (*Cordyline australis*), and of the Nikau, or New Zealand Palm, (*Areca sapida*,), were eaten both raw and cooked. A few also of the sea-weeds were eaten; such as, the Karengo, (a tidal species of *Laminaria* found plentifully from the East Cape to Cape Turnagain), the Rehia, the Rimurapa (*D'Urvillea utilis*), and some others, including *Porphyra vulgaris*; some of which were also used exclusively to thicken the sweet juice of the Tupakihi, or Tutu, (*Coriaria ruscifolia*). While the small berries of the Makomako (*Aristotelia racemosa*), of the heath-like Totara (*Leucopogon Fraseri*), and of two species of *Muhlenbeckia*, *M. adpressa*, and *M. complexa*, of the Ngaio (*Myoporum laetum*), of two species of *Pimelea*, (*P. prostrata*, and *P. arenaria*), and the large plum-like fruit of the Taraire (*Nesodaphne Taraire*), fine-looking but not very gustable, were eagerly sought after in their season by children; who also, with adults, thought highly of a sugary manna-like exudation (of doubtful vegetable origin) called Pia-Manuka, and found in the summer occasionally on the branches of the *Leptospermum scoparium*. The aromatic root and stem of the Papaii (*Aciphylla squarrosa*), and the insipid watery Koreirei, or roots of *Typha angustifolia*, were also eaten raw; while in times of great scarcity the roots of the Matuakumara (*Geranium dissectum*), and of the Ririwaka (*Scirpus maritimus*) were also eaten.

(ii.) The plants of utility and ornament were very numerous—from the giant pine to the tiny moss. These may be conveniently classed thus:—(1.) Clothing, or fibre-yielding plants; (2.) Timber trees, and other plants, whence they obtained their canoes, war and husbandry implements, and vessels; and (3.) Plants and vegetable substances used as ornament. (1.) Of the clothing, or fibre-yielding plants, one only [33] was generally cultivated, and that, too, was not indigenous; *viz.*, the Aute, or Paper-Mulberry tree (*Broussonetia papyrifera*); this shrub, or small tree, was assiduously planted, but only for the purpose of obtaining white fillets for the hair of the Chiefs. It has long been

nearly, if not quite, extinct. The Harakeke, or New Zealand flax (*Phormium tenax*, and *Ph. Colensoi*), of which there are many varieties, was sometimes planted, but not largely so; more to have it handy, or to secure a prized variety, than with a view to cultivation or to improve its fibre. The leaves of these valuable plants were universally used, both scraped and unscraped, and the fibre prepared in various ways,—by scraping, soaking, beating, dyeing, and twisting,—for clothing for both sexes. From it the Chiefs' elegant and ornamented silky Paipairoa, and the shaggy bee-butt looking Pake and Ngeri,—with their many intermediate kinds of clothing mats,—were alone manufactured. Common articles of clothing and war-mats of defence were also woven from the leaves of the Kiekie (*Freycinetia Banksii*), and from those of the Ti (*Cordyline australis*); while from the fibres of the handsome large-leaved mountain Ti, (*Cordyline indivisa*), very strong and heavy mats for apparel, called Toi, were made; which, dyed black, are still greatly prized. A few superior articles of apparel were also made, by the Northern tribes, from the leaves of the Neinei (*Dracophyllum latifolium*). Of the bright yellow leaves of the Pingao (*Desmoschænus spiralis*), strong and useful folding girdles were woven; and from the inner bark of the Aute-taranga (*Pimelea arenaria*), small white cloth-like strips were also obtained, for fastening up the hair, or wearing as ornament in the ears. (2.) The timber trees and other plants of various degrees of utility, comprised the following:—For canoes, the Natives from the Thames northwards generally used the Kauri (*Dammara australis*), and the Southern Natives the Totara (*Podocarpus Totara*), which was preferred by all; the Kahikatea (*P. dacydrioides*), was also often used for this purpose. Troughs, trays, and other large vessels were also made of Totara and of Mataii (*P. spicata*.) The framing of the principal houses was of Totara timber; while their roofs, and sometimes their sides, were often covered with its bark, obtained from the living tree and laid on in large slabs. The bark of the Manuka (*Leptospermum scoparium*) was also used for covering the roof, but is greatly inferior. The carved work of the Chiefs' houses was made out of both Totara and Mataii; but for the carved figure-heads of their canoes the Pukatea (*Atherosperma Novæ-Zelandiæ*) was generally used; while the ornamental carved work of the sterns was made of [34] Mataii, or Totara. The Titoki (*Alectryon excelsum*) furnished handles for light axes and sometimes the Kowhai (*Edwardsia grandiflora*) was used, particularly for the heavier ones. The Ake (*Dodonæa viscosa*), and the Maire,<sup>243</sup> (*Santalum Cunninghamii* at the North, and *Olea* sp. at the South,) supplied hardwood for war implements, and for carved walking-staves; and of another hard wood, Manuka (*Leptospermum scoparium*), husbandry implements, canoe paddles, and spears for war and taking fish were made. Long war-spears were also made of Rimu (*Dacrydinum cupressinum*); but the very long bird-spears (30–36 feet) were made of Tawa (*Nesodaphne Tawa*): the working of which out of a large tree with only their stone implements, obtaining, as they did, but two spears from a single tree, was indeed a most patient and admirable performance, often taking two years for its completion! The hard-wooded Maire-tawhake, (*Eugenia Maire*,) was also prized, and used by the Northern tribes (among whom alone it grew) for husbandry implements. The channelled stems of the Neinei (*Dracophyllum latifolium*), and the red young saplings of Toatoa, or Tanekaha (*Phyllocladus trichomanoides*), made valued walking-sticks. The long

straight young trees of Manuka, and of Tawa, were used for battens for the sides and roofs of their houses; stems of the Kareao (*Rhipogonium parviflorum*) and also Kakaho reeds (*Arundo conspicua*), and slips of Totara timber, were often used for the same purpose. The creepers, Aka, (*Metrosideros scandens*.) and Kareao or Pirita, (*Rhipogonium parviflorum*.) were extensively used for tying up fences, platforms, and the heavy frame-work of houses. Sometimes other creepers (*Passiflora tetrandra*, and *Parsonia*, sp.), were used, but not commonly; and, among the Northern tribes, the creeping fern Mangemange, (*Lygodium articulatum*.) was generally used to bind the outward thatch securely on the roof of their houses. The Raupo, or large Bulrush (*Typha angustifolia*) was universally used to cover the frame-work of their house; the outer thatch being Toetoe, (*Cyperus ustulatus*), or Rautahi (*Carex ternaria*.) or Ririwaka (*Scirpus maritimus*), or of two kinds of Wiwi, or Rushes (*Juncus maritimus*, and *effusus*); sometimes, however, a hard-jointed rush, (*Leptocarpus simplex*.) was advantageously used being by far the best of all the Rushes or Sedges for thatching, on account of its durability. The leaves of the Ti, or "Cabbage tree," (*Cordyline australis*.) were also used for this purpose; but, for the inner work of roofs, sides, partitions, &c., the large fronds of the Nikau, or [35] New Zealand Palm, (*Areca sapida*.) and the handsome Reed, Kakaho, (*Arundo conspicua*.) were extensively used. The interior of the verandahs and sides of their Chiefs' houses was often neatly ornamented with chequered work of various regular patterns and designs, caused by interlacing narrow strips of the leaves of the bright orange-colored Pingae (*Desmoschænus spiralis*.) with the greyish-green Kiekie (*Freycinetia Banksii*), and the olive-colored Harakeke (*Phormium tenax*.) which, worked regularly, had a very pleasing effect. Sometimes, especially in the interior, the outside of their better houses was formed of hard fibrous slabs cut from the stout red-brown fern-tree, Wekiponga (*Dicksonia australis*); and, in other parts of the Island, smaller pieces cut from the trunk of the black fern tree, Korau, or Mamaku, (*Cyathea medullaris*) were closely placed like a plinth around the lower part of the house, especially if it were a sweet potatoe store, to keep out the rats. Their large and small fish-traps, or creels, were very strongly and skillfully made of the flexible stems of two species of *Muhlenbeckia*, (*adpressa* and *ephedroides*.) and also of the long fibrous roots of the New Zealand flax (*Phormium*); the stems of the twining fern (*Lygodium articulatum*.) were also extensively used for this purpose by the Northern tribes. Their fishing nets, of all sizes of mesh, (some of which nets were very long, and most skilfully made, the admiration of Cook and of all early voyagers), were made of the split but unscraped leaves of the New Zealand flax (*Phormium*); for floats, the light wood of the small tree Whau, or Hauama, (*Entelea arborescens*.) was used, and sometimes the leaves of the Raupo, or large Bulrush, rolled up; and for net-ropes the tough stringy bark of the Houhere, and also of the Whauwhi or Houi, (*Hoheria populnea*, and of its varieties,) was plaited together; leaves of *Phormium* were also used for this purpose. Excellent fishing-lines, of various lengths and sizes, were capitally spun by the hand from the dressed fibre of the New Zealand flax; and for hooks, the tough naturally curved stems of the climbing fern (*Lygodium articulatum*.) and the roots of the shrub Tauhinu (*Pomaderris ericifolia*.) hardened by fire, were sometimes used; human bone, however, being always preferred. Canoe sails were manufactured from the leaves of the Raupo, laced across with the fibres of New Zealand flax; while the Hune, or downy *pappus* of the seeds of the Raupo,

243 WC: See par. 26 (viii.).

was used for caulking and plugging holes in their canoes. Useful floor and sleeping mats of all sizes, and of several patterns and kinds, were woven of leaves of New Zealand flax (*Phormium*), of Kiekie (*Freycinetia Banksii*.) and sometimes [36] of Toetoe (*Arundo conspicua*). Baskets, large and small, plain, and highly ornamented, and dyed, for all manner of uses, were woven of the same materials; and sometimes the leaves of the Ti (*Cordyline australis*.) and of the Nikau Palm (*Areca sapida*.) were also used for the same purposes. Their sitting and sleeping places were strewed with the leaves of the Toetoe, or of Raupo; with the soft fragrant grass Karetu (*Hierochloe redolens*.) when in season, and sometimes with the leaves of the Papaauma, (*Coprosma grandifolia*); for visitors of rank, however, the fronds of the different tree ferns were used, particularly of the Ponga (*Cyathea dealbata*). The New Zealanders were often curiously particular as to what plants were used tied around, or under and over, their vegetable food in their cooking ovens in the earth; for instance, the roots of the Tikoraha (*Cordyline stricta*), were tied separately for baking in bundles of Hangehange (*Geniostoma ligustrifolium*); for their Kao, or prepared sweet potatoes, they used the leaves of the Parataniwha (*Elatostemma rugosum*); generally, however, they used the fronds of the larger ferns, *Lomaria procera*, and *Goniopteris pennigera*. Fire, by friction, was obtained from several woods; the Kaikomako (*Pennantia corymbosa*) was, however, the one most prized, and also the Pate (*Schefflera digitata*); and a trunk stem of the Kohia (*Passiflora tetrandra*) was often sought to carry fire on a journey, as it had the quality of a slow-burning match. The green leaves and branches of the Kawakawa (*Piper excelsum*), were gathered and laid in rows in their plantations of Kumara, or sweet potatoes, between the beds, and there slowly burnt, that the insects which injured the growing plant might be destroyed by the disagreeable bitter smoke. The Hue, or gourd, (a species of *Cucurbitæ*), gave useful Calabashes, and vessels of several kinds and sizes, from a gill to three gallons, for many purposes. Sometimes, however, large sections of the great sea-weed, Rimurapa, (*D'Urvillea utilis*) were inflated and used as Calabashes, called Powha, particularly for holding cooked animal food in its own fat, and for oil. The bark of the Totara was also skilfully made up into neat vessels, for holding and carrying of water. (3.) Of Plants and vegetable substances used as Ornament, &c., the following are the principal:—For Dyes, the bark of the Hinau, and of the Pokaka (*Elæocarpus dentatus*, and *Hookerianus*), and also of the Makomako, (*Aristotelia racemosa*), were used for black; and the bark of the Tanekaha, or Toatoa, (*Phyllocladus trichomanoides*), for red. Oil, for anointing, was expressed from the beaten seeds of the Titoki or Titongi, (*Alectryon excelsum*), and also [37] from the seeds of the Kohia (*Passiflora tetrandra*.) A gum-resin, used to perfume their oil, was obtained from the Kohuhu, and the Tarata, (*Pittosporum tenuifolium*, and *P. eugenioides*), and also from the Taramea, (*Aciphylla Colensoi*), which last was very highly prized. The strong smelling ferns, *Hymenophyllum villosum*, *Doodia media*, and *Polypodium pustulatum*, were also used for the same purpose of perfuming, and for scenting oil; and so were a few fragrant Mosses, and *Hepaticæ*, called Kopura,—especially *Lophocolea Novæ-Zelandiae*, and *allodontæ*. The aromatic leaves of the Raukawa, a very scarce small tree, sparsely growing in the high dense forests, (*Panax Edgerleyi*), were also sought for a similar purpose; particularly to rub their limbs and bodies. The daisy like flowers of the Roniu (*Brachycome odorata*), and the flowering tops of the sweet-scented grass Karetu

(*Hierochloe redolens*), were worn around the neck, enclosed in fibrous leaves, as a scented necklace. Elegant female head-dresses were formed of flowering wreaths of various species of *Clematis*, (particularly *hexasepala* and *Colensoi*), and of the graceful Waewaekoukou (*Lycopodium volubile*). Sometimes the snow-white downy fibres from the under side of the leaves of the Kowharawhara, and the Kahakaha, (*Astelia Cunninghamii*, and *Solandri*.) and the thin transparent epidermis from the leaves of the mountain Tikumu (*Celmisia coriacea*), were also used by females to ornament the hair and head. The fresh gum-resin from the Kauri (*Dammara australis*) was commonly chewed as a masticatory (*h.*), so also was that obtained from the Tawhiwhi, or Kohuhu, (*Pittosporum tenuifolium*.) mixed with the inspissated juice of the Puwha, or Sow-thistle, (*Sonchus oleraceus*), ingeniously collected. Combs were made of Mapara and Kapara, the hard dark woody tissue, or heart wood of Rimu, (*Dacrydium cupressinum*.) which was assiduously sought for in the forest among old prostrate rotting Rimu trees; they were also carved out of Mataii and Manuka woods. The spines of the Tumatakuru, or New Zealand Thorn, (*Discaria Toumatou*.) were sometime used for tattooing, though instruments of bone were preferred; the black pigment for the same operation being obtained from the soot of old and hard Kapia, or Kauri resin, dug out of the earth; and also from the ashes of the curious vegeto-caterpillar fungus, the Hawhato (*Cordiceps Robertsii*), which was sometimes mixed with the black juice of the Mahoe berry (*Melicytus ramiflorus*). Flutes were made of the woody stems of the Kohoho or Poroporo, (*Solanum aviculare*), and of the Tupakihi or Tutu (*Coriaria ruscifolia*). Ornamental boxes for holding [38] feathers, &c., with their covers, were generally carved out of Mataii wood; and flying-kites were very ingeniously made of the Toetoe (*Cyperus ustulatus*). After the introduction of flint and steel, the pith of the flowering stems of the New Zealand Flax, served for tinder; and so did the Pukawa, a fungus (*Boletus*) of enormously large growth, often found on the upper branches of the Tawhai-rau-nui (*Fagus fusca*). On the New Zealanders learning to write, they used the juice of the root of the New Zealand flax as ink; the crimson juice of the berry of the Kokihi, (a species of *Tetragonia*—*T. trigyna*,—) and the dark juice of the berries of *Schefflera digitata*, were also used for the same purpose. Sometimes they used a green leaf of New Zealand Flax for writing on, etching on it with a nail, or style of hard wood, thus unknowingly imitating their Asiatic neighbours. It is highly doubtful whether the New Zealanders ever used any vegetable as an internal medicine before their intercourse with Europeans; for severe burns, however, they applied outwardly the ashes and charcoal dust of burnt fern fronds, (*Pteris esculenta*.) and the fine reddish dust of the large decaying fungus Pukurau (*Lycoperdon Fontainesii*). The blanched bases of the leaves of the Harakeke (*Phormium*), and the roots of the Rengarenga or Maikaika, (*Arthropodium cirrhatum*.) were sometimes roasted and beaten to a pulp, and applied warm to unbroken tumours and abscesses. As a cataplasm for ulcers they used the leaves of the Kohoho or Poroporo, (*Solanum aviculare*),—and for wounds and old ulcerated sores, they used the large leaves of the Pukapuka, or Rangiora, (*Brachyglossis repanda*), and also the Hune, or *Pappus* down of the large Bulrush, but merely as a protection against dust, &c. Layers of dry Totara bark, and the lower parts of stout green flax leaves, served admirably as splints, in cases of broken bones; the New Zealanders being far better Surgeons than Physicians. And the leaves of several particular plants were

in request for their rude steam, or vapour, baths, for Rheumatic, and other stubborn and chronic complaints; but it is highly questionable whether the benefit derived from such baths did not arise entirely from the warm vapour. They sometimes rubbed the fresh juice of the Ngaio (*Myoporum laetum*) over their skin, to keep off the persecuting Namu (Sandfly); and for several years they have used as purgative medicines, the juice of the root of the New Zealand Flax (*Phormium*), and the bark of the Kowhai (*Edwardsia grandiflora*);—as a tonic, the leaves of the Kohekohe (*Dysoxylum spectabile*); as a demulcent, in colds, &c., the bark of the Houhere (*(Hoheria populnea)*); as a diaphoretic, *Mentha Cunninghamii*; and, as slightly alterative, a decoction [39] of the bark and stems of the Pikiarero (*Clematis hexasepala*), and the root of the Tatarahake (*Coprosma acerosa*.)

24. Touching the Economic Botany of the present time—or æra of New Zealand Colonization—not a little has been already done by the early Settlers to show the uses, qualities, and values of many of the Timbers, and other vegetable substances, of the North Island of New Zealand. Indeed, several of her Botanical productions are better known in the old world than those of much older Colonies. In now considering these, it is purposed to do so, more with reference to their utility, &c., than to their Botanical sequence or arrangement. Consequently, the principal timber trees will be first noticed.

(i.) The Chief timber-producing trees,—*i.e.*, those which are usually sawn into boards for common purposes,—are seven in number; all being Botanically classed under the natural family, *Coniferæ*; although really possessing among them only one true Pine. This is the farfamed and justly celebrated Kauri, (*Dammara australis*) the largest and most useful of all the New Zealand timber trees. This stately tree grows commonly to the height of 140–150 feet, a few reach to 170, or even 200 feet. In general it has a clean trunk fifty to sixty feet in height, before reaching the branches, (which are enormously large, and diverge around the stem from one spot)—with a barrel of eight or nine feet, tapering gradually to five or six feet. The largest clean and perfect barrel seen by the writer was twelve feet in diameter; and the largest spar recorded, was cut at the Hokianga River in 1839, it measured 106 feet in length, without a knot, and was two feet square at the smaller end. In a Kauri forest the spar trees are in proportion as one to four, or five, to the trees fit for sawing. Of this timber there are three varieties known in the market,—the white, the red, and the mottled, (the last being rather scarce) which are not Botanically distinct. The light-coloured wood has the straightest grain, and is said to be less brittle when dry, and easier to work; the darker kind will admit of a good polish, and is a handsomer wood than the former, but it is only the mottled variety that can be considered a fancy wood; this kind sometimes resembles bird's-eye maple, or knotted oak, and makes really handsome picture-frames, and pannelling, and takes a good polish. The colour of the varieties of Kauri wood, varies from a light straw to a reddish light-brown; fancy pieces may often be met with delicately marked and variegated, with a wavy flowing appearance, which also take a beautiful polish. Its detriment, however, as a wood, is its great [40] tendency to shrink and contract in length as well as in breadth, and this it does, however old or seasoned, when freshly planed. It is largely used by the Shipwright, the House-builder, and the Cabinet Maker; two-thirds of the houses in the North Island, and all the many vessels and boats, are mainly, if not entirely, built of this timber; and

from a time long before the date of the Colony, many cargoes of Kauri spars were taken to England for the purposes of the Royal Navy. The demand for this timber is very great, and has ever been increasing. The quantity *exported* from Auckland and the Northern ports of the Auckland Province, in 1863, was,—of spars and rickers, 270 tons, value £1,953; of sawn timber, 1,552,636 feet, and of squared wood, 1,641 loads, the value of the two last items being £16,000. Although confined to the northern parts of the North Island,—see, par. 13, (ii.),—it grows in all soils, and at several altitudes from the sea-side to 1,500 feet, preferring, however, the dry and sterile clays of the hilly districts. It is still very plentiful, and is likely to meet all demands for 50 future years; although, as a matter of course, it is yearly getting less accessible. Many miles of valuable Kauri forests have been from time to time thoughtlessly consumed by fire; which fires, it is sincerely hoped, will not hereafter be so frequent as they have been. There are few sights more impressive of grandeur, than an untouched forest of this stately tree; few more impressive of misery and devastation, than a worked-out and abandoned one!

(ii.) The next valuable tree of this class, and scarcely less so than the Kauri pine, is the Totara (*Podocarpus Totara*); which, while generally found throughout the North Island, abounds in the Provinces of Hawkes' Bay, and Wellington, where it forms fine forests. It often attains the height of 120 feet, and upwards, with a clean trunk of from fifty to sixty, or even to seventy, feet, without a knot; having a diameter of five, or even six feet, tapering gradually to twenty inches. It is not generally found near the sea, (although it has been met with overhanging the tidal rocks) and flourishes most on rich alluvial levels. The wood of this tree is hard, and generally of a dark dull pink colour, resembling pencil cedar; it works freely, and when polished is handsome, and very suitable for massy ornamental interior work. In the southern parts of the North Island, (particularly Wellington) the better and more durable houses, churches, &c., are generally built of it. It is the best New Zealand wood for bridges, wharfs, piles, &c.; as it possesses the valuable property of resisting rot, more especially in wet [41] situations. It splits well, and makes excellent shingles for roofs; and is very extensively used for posts in fencing. The heavier articles of furniture are sometimes made of it; and the portion of its wood which grows under a "knot," (or large warty excrescence, often seen on its trunk) is peculiarly veined, owing to its grain there being very tortuous, and when polished highly beautiful. Those "knots" are eagerly sought after for veneering purposes in England, but the supply hitherto has been very scanty. (*Vide* § iv. *sequente.*)

(iii.) The Kahikatea, or White, or Swamp, Pine, (*Podocarpus dacrydioides*) is the next commonly used timber tree. It is the most generally diffused throughout the North Island of all the timber trees, often forming large forests; and is almost invariably found in wet spots and swampy situations, and often on the low banks of rivers, at a much lower elevation than its congeners. It often grows to the height of 100 feet, and as its trunk is generally clear from living branches, it presents a tolerably clean barrel of from 50 to 70 feet. Its trunk, however, is frequently not so regularly formed as those of the other *Podocarpi* and the Kauri, being sometimes largely ribbed or buttressed for some distance upwards from its base. This tree is anything but handsome when growing in the close forest; often, however, a single tree is met with standing alone and

forming a very beautiful object. The timber of this tree has been, and is, pretty extensively used for all common purposes, apart from exposure or wet. It is the most easily obtained of all the New Zealand timbers; but, owing to its tendency to rot when exposed, and to its scarcely ever seasoning, (continually contracting and expanding with the state of the weather,) it is only used when others are not to be had. For in-door work, however, it is often advantageously used. It is straight-grained, and where free from knots works easily. It has been used for spars for small vessels; and is sometimes split for fencerails, and for roof shingles. It is often found having fissures in the wood, filled with a hard dry adhesive gum-resin, which is difficult to cut or remove. It is said, that trees which have grown on a slope, or on gravelly land, possess closer-grained and more durable timber, than those of the low wetlands. Choice parts of the wood of this tree, from its light yellow colour, and rich changeable sparkling grain, are sometimes advantageously used as a contrast wood by the Cabinet Maker, to set off the darker coloured woods.

(iv.) The Rimu or Red Pine, (*Dacrydium cupressinum*) another large size timber tree, is also common throughout the North Island; but [42] is never met with forming forests, almost always scattered and single. In its young state,—owing to its light green colour, graceful shape, fine foliage, and long drooping pendent branches,—it is a truly elegant object, often rivetting, for a few moments the entranced beholder; especially when seen standing out to advantage in bold relief on the slope of some secluded sunny dell in the virgin forests! forcibly reminding him of Xerxes and the beautiful plane-tree on the Maeander.<sup>244</sup> In the northern parts of the Island this tree affects much higher ground than the foregoing; it attains to the height of from 50 to 70 feet, with a diameter of from 4 to 5 feet; and is lower branched than its congeners. Its wood is tolerably close-grained and hard, and varies considerably in colour, from yellowish to a dull red interspersed with dark-brown streaks. It makes handsome furniture, takes a good polish, and is suitable for finished inside work; although it is often rather difficult to work, owing to its natural fissures (frequent in the best wood) filled with a hard resinous concretion much like some wood of the Kahikatea, or White Pine, already mentioned. Its wood is in general use by the Cabinet Maker and Turner, and by the Carpenter and House-builder; and is sometimes used by the Joiner and Millwright. At the North, where it is more plentiful than Totara, it is often used for fence posts, being tolerably durable. From published official sources we learn that the quantity of sawn timber (*kind* not specified, but supposed to comprise the last three mentioned kinds, Totara, and White, and Red Pine) exported from the Port of Wellington, in the year 1863, was 2,143,303 feet, value, £19,705.

(v.) The Mataii (*Podocarpus spicata*), another large-sized timber tree, is also common throughout the North Island, but (like the Rimu) is generally found alone. It is sometimes found growing in forests with the Rimu, but often it affects lower grounds; preferring rich alluvial soil. It grows to a height of 70–90 feet, and a diameter of 4–5 feet, with a straight clean trunk and few branches. The wood is variously coloured, sometimes reddish, and sometimes variegated; it is easily worked, is hard, and pretty durable; and is used for Wheelwrights' and Millwrights' work, and for Cabinet Making and pannelling.

(vi.) The Miro (*Podocarpus ferruginea*), is also a timber tree pretty general throughout the Island, but not so common as the Mataii. It grows to a height of from 40 to 60 feet, but is small in girth, rarely reaching 3 feet in diameter. The wood is smooth, close grained, and [43] dark, splits freely, and is very durable. It is used for spokes, and for Carpenter's work; and would no doubt be more extensively used if it were of larger dimensions, and more easily obtained.

(vii.) The Tanekaha or Toatoa, (*Phyllocladus trichomanoides*) is also a timber tree of the same Natural Order as the last five trees, but very different from them in size and appearance. It is one of the "Celery-leaved Pines," and being an ornamental tree of regular growth, often has a very handsome appearance. It is plentiful on dry hilly lands in the North parts of the Island, but scarce in its more Southern parts. Its average height is from 45 to 50 feet, and from 2 to 3 feet in diameter. It is used for all kinds of outside work, as posts, rails, and floors of verandahs, and is greatly preferred for decks of vessels. The wood is rather too heavy for spars, although it has been occasionally used for masts and booms. In colour it is a darker yellow than the Kauri, has a closer grain, and a turpentine like smell. It is a very valuable wood, but, from its small size and not being easily accessible, it has not been so largely used as it deserves.

25. Those other large timber trees which are commonly split for use, or chopped, or sawn into short junks, (rarely into boards, or planks) for the market, are six in number, and comprise the following:—

(i.) The Puriri, or New Zealand Oak, or Teak, (*Vitex littoralis*) is a large tree of irregular growth. It grows to the height of from 50 to 60 feet, with a clear trunk of 20 feet, or more, and varies from 12 to 25 feet in circumference. Much larger trees, however, are occasionally met with. Several are often found growing near each other, forming a handsome dark green clump of wood. It is confined to the North parts of the Island, (see par. 13, § ii.,) where it prefers a rich soil, and is sometimes met with overhanging tidal rocks and beaches. From its earliest growth this tree is subject to the borings of a large larva like insect, which makes long clean cut holes throughout the hardest part of the wood, large enough to admit a man's small finger. Of course this gives the wood a most unsightly appearance, yet it is but little injured thereby. The wood is heavy, of an olive, or brownish colour, close in the grain, splits freely, and works well; it is extensively used for knees in ship-building, for piles in house-building, for gate and fencing posts, and for every purpose where solidity, strength, and exemption from rot is required. It is estimated as being about equal with English Oak, in stiffness, strength, and toughness. [44]

(ii.) The Kahikatoa or Manuka, (*Leptospermum Scoparium*), is a tree common throughout the North Island. It grows in the poorest as well as in the richest soil, but prefers steep and dry hill sides. It sometimes attains to a height of 40, or even 45 feet, and to a diameter of 2 feet. Often a large patch, or small forest, of this tree will be found growing closely together, without any other tree among them. The wood is very hard, and of a dark colour, varying from yellow to red and dark brown; and is admirably fitted for the Cabinet Maker and Turner. It makes good axe handles, and is extensively used as rails for fencing, for which purpose it is one our best New Zealand woods. It is also excellent fuel, and many thousands of tons of it as firewood, are annually used in and exported from Auckland.

<sup>244</sup> WC: Herodotus, Polymnia, § 31.

(iii.) The Tawhai, and Tawhai-rau-nui, or Black and Red Birches, (*Fagus Solandri* and *F. fusca*) often form large and sometimes handsome trees. Though plentiful in the South parts of the Island, with one exception they are not found north of the East Cape; yet, where they flourish, especially in the higher mountainous grounds, they often form large forests. They run from 80 to 100 feet in height, and (according to the species and soil) from 3 to 7 feet in diameter. The wood, unfortunately, is not of great use or value as timber, yet is sometimes used for boat-knees, and for cask staves. That of the Black Birch, however, is extensively used for fence rails in the Province of Wellington; and is said, when well dried, to make good firewood.

(iv.) The Pohutukawa, (*Metrosideros tomentosa*) is another large hard-wooded tree of diffuse irregular growth. Its *habitat* is the immediate sea-shore of the North parts of the Island; where, on rocky headlands and cliffs, sometimes pendent, it forms a striking and picturesque object. It is very robust, sometimes being 4, or even 5, feet in diameter, but the trunk and branches are invariably more or less crooked. Nevertheless it is a very valuable tree, especially for ship-building purposes, where its gnarled and crooked character make it highly serviceable for timbers, knees, breast-hooks, &c.—it is also used for making ship's blocks, and for building piles. This wood presents a very handsome grain, a rich rose colour, and a high polish, when worked up by the Cabinet Maker, and choice pieces are in great demand. The area, or zone, in which this valuable tree is found being very limited, its wood will soon be exhausted unless some means are speedily made use of to economise it. [45]

(v.) The Rata, (*Metrosideros robusta*) a tree very closely allied generically to the Pohutukawa, is one of the largest of the New Zealand forest trees, often attaining a height of 120 feet, of which from 60 to 80 feet forms its trunk; which is sometimes very bulky,—one having been measured which was 54 feet in girth. Unlike the preceding, however, it is mostly found inland, at a tolerably high elevation, and is pretty general throughout the Island. Its growth is both regular and irregular, mainly arising from situation and soil. Its wood is heavy, red, close-grained, and durable; and is very valuable to the Wheelwright and to the Ship-builder, on account of its strength and toughness, owing to the peculiar twisting of its fibres; the roots and branches as well as the trunk affording excellent materials for naves, timbers, and knees. It is also a handsome wood for the purposes of the Cabinet Maker; and will answer well for all uses where Oak and Beech are required.

(vi.) The Aka, (*Metrosideros scandens*) although (in bulk) a small tree, or climber, may also here be noticed; as it not only belongs to the same genus with the two preceding, and to the same sub-section, but is also very closely allied to them in its qualities and uses. This plant is generally common in all woods, and may be known as a large stout climber ascending to the tops of the highest trees, and often hanging like loose ropes from them. Like the others of the genus already noticed, it is heavy, close-grained, and tough, and is principally used for timbers for boats.

26. The trees which follow, though many are small and scarcely timber trees, comprise some which are very useful to the Manufacturer.—

(i.) The Kowhai, or New Zealand Acacia, (*Sophora*, or *Edwardsia, grandiflora*) is a small tree, sometimes reaching to the height of 30 or 35 feet. Its wood is hard, and of two or three colours or varieties, varying from a bright yellow, in

some specimens, to that of a light olive, or a dull Indian pink, in others. It is well fitted for the purposes of the Cabinet Maker and the Millwright.

(ii.) The Hinau, (*Elaeocarpus dentatus*.) a tree generally common in the drier woods in the interior, attains to the height of from 50 to 60 feet, and 3 feet, or upwards, in diameter. The wood, in general, of this tree is inferior, but the crooked parts of the wood, with the knots and warty excrescences, have a very beautiful marbled grain, and are therefore valuable to the Cabinet Maker. [46]

(iii.) The Towai, and Tawhero, (*Weinmannia sylvicola*, and *W. racemosa*,) are small trees which are found throughout the interior. Their average height is 40 feet, and about 2 feet in diameter. Their wood is said to be heavy, close-grained, and red, and to answer all purposes to which Mahogany, or New South Wales Cedar, is applied.

(iv.) The Titoki or Titongi, (*Alectryon excelsum*,) is a tree general throughout the Island. It is of lofty growth, sometimes reaching 60 or 70 feet, and 3 feet in diameter; it has a pleasing appearance, and is low branched. Its wood is straight in the grain, and is very tough, and is much like that of the English Ash. It is used by Wheelwrights and Shipwrights, and may be applied to like purposes with that of the Ash.

(v.) The Kohekohe, (*Dysoxylum spectabile*) is a handsome tree which is only found plentifully in the North parts of the Island. (See par. 13, § ii.) It reaches to the height of 50 or 60 feet, having its trunk clear of branches to the height of 30 or 40 feet, and of 3 feet diameter. Its wood is fine-grained, of a pale reddish colour, and is heavier than the New South Wales Cedar. It is used in the making of Furniture.

(vi.) The Tangeao or Mangeao, (*Tetranthera calcaris*,) is a small tree, also confined to the Northernmost parts of the Island, where it is tolerably abundant. It reaches to the height of 45 feet, but its trunk is seldom above 18 inches in diameter. Its wood is of a dark reddish brown colour, and admits of a good polish; it is said to equal that of the Elm in lightness, durability, and extraordinary toughness. It is used for Agricultural Implements, Bullock Yokes, and Oars, and (lately) for Ship's Blocks, for which last purpose it is likely to be very valuable. It would probably make good spokes and cogs.

(vii.) The Rewarewa, (*Knightia excelsa*,) is a handsome tree of peculiar fastigiate—or poplar-like—growth. It is much more plentiful in the North than it is in the South parts of the Island. It is generally found in dry woods, and often attains to the height of 60 feet, although its diameter is rarely 3 feet. Its wood is beautifully variegated and mottled, reddish on a light-brown ground; and is used for Picture Frames, and Fancy Work. It splits freely, and is therefore used for fence pales.

(viii.) The Maire:—two, or more, very distinct genera, containing several trees, (*Santalum Cunninghamii*, and *Olea* sp.,) are confounded under this Native name; although the Natives themselves generally [47] distinguish them pretty clearly,—calling the *Olea*, Maire-rau-nui. Both were by them called Maire, from the fact of both being hard-wooded, and formerly used by them for the same purposes. One of the trees (*Santalum Cunninghamii*,) is confined to the North parts; while the various species of *Olea* are more general, and much more plentiful in the South parts of the Island. It is highly doubtful whether the true Northern Maire (*Santalum Cunninghamii*) is yet much known in the Arts and Manufactures; it is a small tree, belonging to the

Sandalwood family, and the species is confined to a very limited area. (See par. 11, § ii.) The large Maire tree, or Maire-rau-nui of the Aborigines, comprise 3 known species of Olive, (*O. Cunninghamii*, *lanceolata*, and *montana*.) one species being found generally throughout the Island. It commonly forms a large tree, 60 to 70, or even 100 feet high, and 4 feet, or more, in diameter. It is very closely allied to the European Olive, and to the "Iron-wood" of Norfolk Island,—all being species of the same genus. There are two kinds known to the Manufacturer;—a dark variety fit for Cabinet-Making, and a white variety fit for sheaves, and cogs, and for Wheelwrights' work. The dark kind has a handsome grain, and polishes well; but its brittleness and great weight prevent its being more generally used.

(ix.) The Pukatea, (*Atherosperma Novæ-Zelandiæ*), is among the largest trees of New Zealand, sometimes reaching the height of 150 feet, and a clear diameter of 5 to 7 feet, besides having immensely thick buttresses at the base. The wood, however, is soft, and will not split; and (at present) is little used save in boat-building; it is highly serviceable for the bottom boards of boats, as in case of striking a rock, only the spot so struck is staved: a nail might be driven into the wood without splitting or boring.

(x.) The Tawa, (*Nesodaphne Tawa*), is a fine tree, common throughout New Zealand, especially in the interior, often attaining to the height of 70 feet. Its wood is light and splits easily, and soon rots if exposed to wet; notwithstanding, from its freeness of splitting, it is used for fence rails, and for shingles, in places where it abounds.

(xi.) The Taraire, (*Nesodaphne Tarairi*), another species of the same genus, but confined to the North parts of the Island, (*vide* par. 11., § ii,) is a handsomer and still larger tree; yet its wood, being similar in quality, is of little use.

(xii.) The Ake, or New Zealand Lignum Vitæ, (*Dodonæa viscosa*), is a small tree, or large shrub, seldom attaining a greater diameter than 1 foot. [48] It is found generally on dry ground throughout the Island, but is both more plentiful and larger at the North parts. Its wood is very hard and very heavy, (being by far the heaviest of all the New Zealand woods,) is of a reddish colour, and is often variegated with dark streaks, or mottled with a succession of knots, giving it a peculiarly beautiful appearance. It is used for Sheaves, Axe-handles, &c.

(xiii.) The Tipau, or Mapau, (*Myrsine australis*), is a small leafy tree, 15 to 20 feet high, found sparingly throughout the Island, but more plentiful at the North. Its wood resembles Beech, and is used for Chair making, Carpenters' tools, Walking sticks, &c.

(xiv.) The Wharangi, or Wharangi-pirou, (*Melicope ternata*), is a small tree, 12–15 feet high, generally found throughout the Island. Its wood resembles Satin-wood, and is used by the Cabinet Maker for inlaying Fancy work.

(xv.) The Kawaka, (*Libocedrus Doniana*), is a middle-sized hard-wooled tree of the Pine family. It is sparingly found and generally at much higher elevations than the larger timber trees, hence it is not much known. It is confined to the North parts of the Island, where it attains to a height of from 30 to 40 feet, (or more) and from 2 to 3 feet in diameter. Its wood is dark coloured, beautifully grained, close and heavy; well suited for picture frames. In the lower part of its trunk the wood is said to resemble the "tulip-wood" of New South Wales. This tree is very closely allied to the famed "Alerse" (*Thuya tetragona*) of South Chili and

the Straits of Magellan; and is believed to be a very valuable wood.

27. There still remains to be noticed a few more indigenous vegetable substances known in commerce; foremost among which as valuable exports are two of world-wide fame, though peculiar to the Island, *vis.*— the New Zealand Flax, and the Kauri Gum.—

(i.) The New Zealand Flax, or fibre of the *Phormium tenax* and of *Ph. Colensoi*, and of their varieties, (Muka of the Natives, as the dressed fibre of the Harakeke, or Flax Plant) has long been too well known to require any lengthened remarks here. The plants are common in every situation and soil throughout the Island, or the New Zealand groupe, (including also Norfolk Island) where alone the *Phormium* is found indigenous. (g.) Some swamps, or low grounds, possess it as almost the only plant, growing continuously for miles. Formerly it was hand-dressed in large quantities by the Aborigines, both for home consumption among themselves and for sale, and was exported very largely. As an [49] article of export it has greatly diminished, but this is entirely owing to the Natives having generally given up the dressing the plant for sale,—to the dearth of hand labour—and to the difficulty in properly preparing its fibre for use by machinery; which difficulty, however, will without doubt be eventually overcome. From official statistical papers it is gathered, that the export of hand-dressed Flax, during the 10 years ending 1852, from the port of Wellington alone, amounted to 523 tons 15 cwt., value £7,200: of which, nearly one-fourth, or 128 tons 10 cwt. 85lbs., was exported in one year, 1850. Of late years the export of this article has been very small compared with what it once was, and with what (it is firmly believed) it will yet be.

(ii) The Kapia, or Kauri Gum, is (as its colonial name shows) a Gum, or rather a Resin, from the Kauri Pine (*Dammara australis*); it is not however obtained in the present living Kauri Pine forests, but only in the North parts of the Province of Auckland, where (it is believed) such trees formerly grew,—yet of such ancient forests no other trace generally remains than the resin itself slightly buried in the soil. Large tracts of the country north of Auckland (particularly of the more barren spots) is of this description; and much of it has been already dug over, (carelessly perhaps) and the resin collected. It is now about 20 years since the Kauri gum was first noticed as an article of export; and it has been mainly, if not entirely, gathered by the Aborigines from the Thames to the North Cape. The quantity exported from Auckland, in 1863, was 1,400½ tons, worth £27,026; and the total quantity exported from that Province, during the 10 years ending 1862, amounted to 13,575 tons 18 cwt. 84lbs., worth £174,148. The largest quantity exported in any one year (1857), was 2,464 tons 10 cwt., worth £34,550.

(iii.) Another peculiar article of export, which has also been extensively used in the Colony for tanning, is the bark of the Towai (*Weinmannia racemosa*). This tree (or a closely allied species), is more or less common throughout the Island, but it is much more abundant in the Northern parts, where, too, its Bark has been more particularly gathered for use, and exported for tanning purposes.

(iv.) Other indigenous vegetable substances, which have been both successfully used and brought to market, are,—the Kareao, or Supplejack creeper (*Rhipogonum parviflorum*), as coarse Basket and Wicker work; Brooms, for ship and domestic purposes, made of the twiggy Manuka (*Leptospermum scoparium*); the woody stems of the white

Mangrove (*Avicennia officinalis*), for soapmaking; the downy *pappus* [50] Hune from the fruiting heads of the large Bulrush, (*Typha angustifolia*.) for beds, bolsters and pillows; and Honey;—since the introduction of Bees and their becoming wild. Of this last article a large quantity increasing every year, (particularly at the North,) finds its way into the market.

28. It is reasonably believed, that there are yet several indigenous plants and vegetable substances which may prove to be valuable both for use and export; some of which are all but quite unknown to Arts and Manufactures: a few of them will be here mentioned.—

(i.) OF TIMBERS:—(a. known hard woods.) The Mairetawhake, (*Eugenia Maire*); the Rohutu (*Myrtus pedunculata*), especially the larger Southern tree; the Maire (*Santalum Cunninghamii*), a small tree with dark bark, of the Sandal-wood genus, scarcely averaging 30 feet in height, only known as growing in the dry forests Northward of 36° South; the Manao (*Dacrydium Colensoi*), a small hard-wooded pine, incorruptible, (according to the Natives,) found sparingly in high and dry forests on the East Coast, north of Whangarei, and also in the mountainous country near Taupo; and the long leaved *Myrsine* (*M. salicina*), being the next species to the well-known and valued beech-like Tipau or Mapau, (*M. australis*), and also a much larger tree. (b. trees supposed to be hard-wooded.) The Tawari (*Ixerba brexioides*), the Toro (*Persoonia Toro*), the Kohuhu, and the Tarata, (*Pittosporum tenuifolium*, and *P. eugeniooides*.) and the Porokaiwhiri (*Hedycarya dentata*); besides which there are, the white-wooded Horoeka (*Aralia crassifolia*), the Kaikomako (*Pennantia corymbosa*), the large species of *Plagianthus* (*P. betulinus*), and the *Epicarpurus microphyllus* (or *Trophis opaca*); all these, from their known affinities, are well worthy of a trial.

(ii.) OF BARKS: a. for dyeing; the Hinau, and the Pokaka, (*Elaeocarpus dentatus*, and *E. Hookerianus*.) for dyeing black; and the Makomako (*Aristotelia racemosa*), for a blue-black.—b. for tanning; the Toatoa, or Tanekaha (*Phyllocladus trichomanoides*), the Makamaka (*Ackama roseifolia*), so closely allied to the Towai; and the Maanawa, or White Mangrove (*Avicennia tomentosa*.) the bark of which is said to be extensively used for tanning at Rio Janeiro.

(iii.) SUNDRIES: The living bark, branches, stumps and roots, and even leaves, of the Kauri pine would yield a large amount of Kauri resin under proper management. The fibrous leaves of the Kiekie (*Freycinetia Banksii*), is an excellent article for [51] men's hats,—far better than the largely imported common "Cabbage-tree" hat, and but little inferior to a coarse Leghorn or Manilla one, (as the writer knows from experience.) A serviceable Oil<sup>245</sup> could be largely extracted from the seeds of the Titoki (*Alectryon excelsum*); and from the aromatic leaves and bark of the Pukatea (*Atherosperma Novae-Zelandiae*.) a valuable essential oil might also be extracted, seeing that from a closely allied Tasmanian plant (*A. moschata*), an essential oil, called "Sassafras Oil," has been obtained; and Dr. F. Mueller has recently strongly recommended the bark of that tree as "deserving extensive adoption into Medicine." Several Dye-Lichens are abundant in the Island, viz.—*Usnea*, *Ramalina*, and *Parmelia*, (*P. conspersa*, *saxatilis*,

*parietina*, and *perlata*.) The pure semi-liquid Gum, found in such large quantities at the bases of the leaves of the New Zealand Flax, may yet be collected and form a matter of export; and *Zostera*,—useful for stuffing mattresses,—(the recently proposed substitute in England for manufacturing Paper,) is very plentiful in many of our tidal waters.

29. Having thus briefly noticed the *utile*, the *dulce* must not be overlooked; rather, (in the words of Goethe)— "Let us look closely after the beautiful, the useful will take care of itself." Not a few of the Plants and Ferns of New Zealand have long been cultivated in England, from the time of her first British Visitors, and the number of those plants is annually increasing. Still, several highly ornamental and striking plants, (chiefly confined to forests in the interior, or to subalpine solitudes,) are believed to be unknown both to European and to Colonial Gardens. The most prominent and worthy of them will be now mentioned:—(i.) LARGE SHRUBS, AND SMALL TREES. *Pittosporum*, several species; *Hoheria populnea*, and *H. Lyallii*, with their several strongly marked ornamental varieties; *Melicope simplex*; *Phelandrum nudum*; *Leptospermum ericoides*; *Myrtus*, 2 or 3 species; *Ixerba brexioides*; *Senecio*, several sp.; *Leucopogon fasciculatus*, and its varieties; *Dracophyllum latifolium*; *Librocedrus Doniana*, and *Dacrydium Colensoi*.

(ii.) SMALL SHRUBS. *Carmichaelia odorata*, and *C. flagelliformis*; *Fuchsia procumbens*; *Alseuosmia*, several sp. and vars.; *Coprosma*, several sp.; *Olearia*, several sp.; *Senecio Greyii*; *Gaultheria*, several sp.; *Cyathodes Colensoi*; *Dracophyllum*, several sp.; *Veronica*, several sp.; *Pimelea*, several sp.; and *Cordyline*, 2 or 3 species. (iii.)

HERBACEOUS PLANTS. *Ranunculus insignis*, and *R. nivicola*, among [52] the largest species of the genus; *Drosara binata*; *Aciphylla Colensoi*; *Celmisia*, several sp.; *Colensoa physaloides*; *Wahlenbergia saxicola*; *Gentiana montana*, and *G. pleurogynoides*; *Calceolaria Sinclairii*; *Ourisia*, several sp.; *Callixene parviflora*; *Forstera Bidwillii*; *Helophyllum Colensoi*; and several of the peculiar orchideous plants, both terrestrial and epiphytical.

30. Lastly, of indigenous Medicinal plants and vegetable substances, a few will be here mentioned;—a future time may prove their value.

(i.) Those which have already been usefully tried:—the root of the Harakeke (*Phormium tenax*.) as an anthelmintic and cathartic; the leaves and bark of the Kohekohe (*Dysoxylum spectabile*), as a tonic; the roots of the Kareao (*Rhipogonium parviflorum*) as an alterative,—this plant is very closely allied to the Sarsaparilla plant (*Smilax sarsaparilla*) and its roots have been beneficially used in New Zealand instead of that medicine which is so commonly adulterated (i); the bark of the Houhere (*Hoheria populnea*) as a demulcent; the fragrant herb *Mentha Cunninghamii*, as a diaphoretic; the aromatic leaves of *Angelica roseifolia*, as a diuretic and remedial in syphilitic cases; and the roots of *Taraxacum Dens-leonis*, as an alterative.

(ii.) Those which, from their known natural affinities, are believed to be valuable; from such, the following are selected:—the spicy bark of the Horopito (*Drimys axillaris*) a species ranking next to the well-known *D. Winteri* of Cape Horn; which produces the valuable Winter's Bark; the intensely bitter bark of the Kowhai (*Sophora*, or *Edwardsia*, *grandiflora*)—it is worthy of notice, that both African and East-Indian *Kino* is produced by plants of an allied genus of the same sub-order;—the leaves of the Wharangi-pirou (*Melicope ternata*)—as allied naturally to the genus *Diosma*, species of which genus produce the well-known *Buchu* leaves, which the New Zealand *Melicope* also resemble in

245 WC: In 1849 the writer sent 2 bottles of this Oil to the Kew Museum of Economic Botany; one was cold-drawn, and the other expressed by heat.

taste and smell;—the Kawakawa (*Piper excelsum*)—many closely allied species of this genus (and of the next genus *Cubeba*,) are extensively used as Medicines in various parts of the world;—the aromatic succulent stems and roots of various species of *Panax*, and of *Aralia*,—of which genera several species are used in medicine, and the roots of *P. Quinque-folium* (a plant closely allied to some of our *Panaceas*,) are sold by the Americans to the Chinese for real Ginseng root (*P. Ginseng*);—the astringent bark and diuretic seeds of *Sapota costata*;—the roots of the 2 Mountain Gentians, which are just as purely bitter as those of the officinal *Gentiana lutea*;—the aromatic bark of the Tawa (*Nesodaphne [53] Tawa*,) a plant belonging to the same Natural Order with those producing the Cinnamon, Cassia, Sassafras, Benzoin, and Camphor of commerce; and, lastly, the Waiwatua (*Euphorbia glauca*,) may also prove useful as a medicine, seeing so very many species of the same genus have long been medicinally employed.

31. Although the fitness and suitability of many parts of the North Island for producing all Cereals, and Edible Roots and Vegetables, and most European fruits, has long been well-known, and its great fruitfulness proved by its former large exports of the same,—after providing a sufficiency for its own people; still it would scarcely be proper to close this Essay without some reference to such productions. It is greatly to be lamented, that, with the exception of Potatoes, there has been no export of Agricultural produce for the last 3 years; owing, in part, to the war, and to the very great increase of consumers with less producers. For several years, however, before the present war commenced, the export of *Cerealia* from this Island had been steadily decreasing annually; as the following statement, compiled from official papers, will shew.

[54] (The quantity of Potatoes exported from Auckland in 1863, was 508 tons, value, £3,233.<sup>246</sup> It is believed, that this falling off is mainly owing (apart from the war,) to much too little attention being given to tillage; which noble and necessary occupation is neither followed nor encouraged as it should be. At present, this Island is greatly too dependent on foreign countries for Grain; which is now being brought not only from Australia and Chili, but even from California and England! It is hoped, that this growing evil may be clearly and timely discerned, and put a stop to; or, the consequences resulting therefrom may, some day, be unexpectedly and highly disastrous to the whole Island.

32. It is also believed, that a future generation will derive great advantages from the extensive cultivation of certain plants which cannot be successfully cultivated in the open air in Great Britain, some of which have been already naturalized in this Island;—such as, the Vine, the Mulberry, the Castor-oil plant (*Ricinus communis*,) the Olive (*Olea Europaea*,) the Cochineal Cactus, (*Opuntia*, sp.,) the Tobacco, and the Maize;—the last both for the sake of its spathes and leaves for Paper-making, (*for which it seems admirably adapted*,) as well as for its grain. The Northern parts of this Island,—especially the warm climate and rich volcanic soils north of the Thames,—will, doubtless, produce Wine and Oil in abundance, and, perhaps, Silk; as the climate is well known to be suited to the Mulberry; and the European Olive might be advantageously grafted upon the several indigenous Olives of the island. Further: it is not improbable, that Cochineal, Cinchona, and Coffee, may also be successfully cultivated in the warm climate of the

246 Hector: No potatoes were exported in 1863 from the other Provinces of the North Island.—ED.

Northern districts; seeing these two last mentioned plants have very near Botanical relations in the many species of the genus *Coprosma*, everywhere common and flourishing among us. Those parts of the Island possessing Limestone soils, and, at the same time, not below the necessary isotherm, seem admirably adapted for raising Tobacco; a plant, which, like Clover and Lucerne, requires a deal of Lime in the soil to bring it to perfection; its ashes containing more than 20 per cent. of Lime and Magnesia Salts.—While the more equable and temperate climate and rich alluvial soils of the Southern parts of the Island, will also continue to produce and export as heretofore, all British Grain, and Fruits, and Edible Roots, very abundantly.—

"Hic segetes, illic veniunt felicius uvæ;  
Arborei fetus alibi, atque injussa virescunt Gramina."—  
—VIRG. *Georg. l. i.*<sup>247</sup> [55]

## NOTES.

Par. 6. Note, a.—*Hoheria populnea*: the Botanist Allan Cunningham, (who first visited this North Island of New Zealand in 1826, and who created this genus,) was an accurate and enthusiastic observer of Nature; he thus characteristically and truly notices the beauty of this tree, in drawing up its generic character, (published in 1836,) — "Arbuscula, spectabilis, sempervirens et maxime ornata in sylvis naturalibus iis."— *Ann. Nat. Hist.*, vol. iii. p. 319.

Par. 8. Note, b. I had also drawn a *third* division, or classification, of many of the plants of the North Island, according to its geognostic formation; but I have been obliged to abandon it, chiefly through want of space. No doubt, hereafter, it will be both interesting and useful to show the geognostic *habitats* of the various species,— whether on Clay or Alluvial Soils,—on Limestone, Sandstone (*Palæozoic*,) or Volcanic formations, &c. I feel assured, that much more attention is absolutely needful to this branch of the science than has hitherto been given it, as a necessary step towards the solving of the great problem concerning the Distribution of Plants. I remember well (in 1845) being forcibly struck with seeing certain Bay-of-Islands plants, (e. g. *Metrosideros scandens*, *Gaultheria antipoda*, *Cordyline stricta*, *Lindsæa linearis*, *Lycopodium volubile*, &c.) on the clayey hills near Wellington.—Plants, which I had not before seen south of the Thames. I may also mention that, in 1844, Dr. Hooker published (in the "London Journal of Botany," vol. III,) the names, &c., of a Collection of 123 Plants made in the neighbourhood of Wellington by a visitor, of which number only 2, or perhaps 3, were not identical with the Bay of Islands plants. Hence arose a suspicion, that the North Island of New Zealand possessed but few species, seeing that the same plants were collected in latitudes so far apart. But the fact is, that the same geologic features obtain on those hills, as at the Bay of Islands, although but rarely intermediate. And many of those species (as far as I know,) are not elsewhere found between 36° South and Cook's Straits.

Par. 12. (i.) Note, c. The Pohutukawa (*Metrosideros tomentosa*) is truly a littoral plant; and yet (in 1841,) I detected it growing on the Sandstone rocks of the high

247 WC: "Here corn-crops, yonder grapes in richer abundance glow,  
Elsewhere offspring of trees, or unbidden the green tides flow  
Of the grass".  
Virgil, Georgics, Book 1.

Value in Money, of Grain, (Wheat, Barley, Oats, Maize, and Flour,) and of Potatoes, exported annually from the Provinces of the North Island of New Zealand, for the 10 years ending 1862.

*Value in Money, of Grain, (Wheat, Barley, Oats, Maize, and Flour,) and of Potatoes, exported annually from the Provinces of the North Island of New Zealand, for the 10 years ending 1862.*

YEARS.	AUCKLAND.						TARANAKI.						WELLINGTON AND HAWKE'S BAY.					
	Grain, &c.			Potatoes.			Grain, &c.			Potatoes.			Grain, &c.			Potatoes.		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
1853	12,495	0	0	18,489	15	0	2,456	10	0	3,078	0	0	1,175	1	9	3,667	0	6
1854	27,589	3	8	35,255	10	0	5,181	16	6	5,076	10	0	6,607	11	6	16,137	13	0
1855	61,194	2	6	44,496	10	0	3,007	0	0	15,168	19	0	5,706	17	0	17,686	9	0
1856	12,934	6	0	11,133	0	0	..	..	..	1,200	0	0	5,889	0	0	1,349	0	0
1857	17,884	19	0	8,136	0	0	274	0	0	1,582	0	0	2,575	10	0	6,552	0	0
1858	5,859	14	0	13,043	0	0	552	2	6	4,350	0	0	623	0	0	4,393	0	0
1859	5,087	0	0	6,568	0	0	525	0	0	2,819	0	0	2,643	0	0	240	0	0
1860	1,013	0	0	7,562	0	0	61	0	0	278	0	0	1,228	0	0	2,720	0	0
1861	174	0	0	1,760	0	0	..	..	..	..	..	..	68	0	0	150	0	0
1862	60	0	0	7,445	0	0	..	..	..	..	..	..	..	..	..	1,942	0	0
TOTALS	144,291	5	2	153,888	15	0	12,057	9	0	33,552	9	0	26,516	0	3	54,837	2	6
	£																	

inland lake Waikare, about 70 miles from the sea; and I find, from Dieffenbach, (vol. i. p. 384,) that he too had observed it growing on the trachytic cliffs of the inland lake Tarawera, (1075 feet alt., *apud* Hochstetter) at about the same distance from the sea.

Par. 12. (ii.) *Note*, d. The Karaka (*Corynocarpus laevigata*) is naturally a coast plant; but it is sometimes found growing in the interior, in clumps or singly,—particularly in the more Northern parts, and on the shores of lake Taupo,—where it has been planted as a fruit-bearing tree by the New-Zelanders.

Par. 13. (iii.) *Note*, e. “*Fagus fusca* has not been seen north of Poverty Bay.” In 1839, however, I visited a small isolated wood of *Fagus* at the head of Whangarei Bay, but failed in getting any fruiting specimens. That plant, from its vernation, is believed, by the writer, to be a different species, or, at all events, a marked variety. (*Vide*, “London Journal of Botany,” vol. III., p. 20.) The same tree grows also near Kaitaia Mission Station, North of 35° South. By the Northern Natives, it is called *Hutu*.

Par. 16. *Note*, f, Dr. Sparmann seems scarcely to have been done justice to; no New Zealand plant bears his name. G. Forster, however, in his “Voyage round the World, (vol. i. p. 67, 4to. ed., speaking of his father and himself, while collecting specimens at the Cape, on their voyage out with Captain Cook,) says—“Our abundant harvest gave us the greatest apprehensions that with all our efforts, we alone would be unequal to the task of collecting, describing, drawing, and preserving (all at the same time) such multitudes of species, in countries where every one we gathered would in all probability be a nondescript. It was therefore of the utmost importance, if we meant not to neglect any branch of natural knowledge, to endeavour to find an assistant well qualified to go hand and hand with us in our undertakings. We were fortunate enough [56] to meet with a man of science, Dr. Sparmann, at this place; who after studying under the father of Botany, the great Sir Charles Linne, had made a voyage to China, and another to the Cape, in pursuit of knowledge. The idea of gathering the

treasures of nature in countries hitherto unknown to Europe, filled his mind so entirely, that he immediately engaged to accompany us on our circumnavigation; in the course of which I am proud to say, we have found him an enthusiast in his science, well versed in medical knowledge, and endowed with a heart capable of the warmest feelings, and worthy of a philosopher.” And, the father, J. R. Forster, in the preface to his classic “*Genera Plantarum*,” (among much laudatory language) also says—“Sparmannus plantas describebat, Filius easdem delineabat.—Verum dum Sparmannus plantas accuratius examinaret, filius et ego saepe in consilium vocati in commune consulebamus, &c.” It is hoped, that future Botanical describers and nomenclators of New Zealand plants will remember this. No man can read G. Forster’s “Voyage,” or the “Observations” and Botanical works published by his father, J. R. Forster, without perceiving how much they (we?) were indebted to Dr Sparmann; who also did so much at the Cape for the advancement of Natural Science. His memory has been justly commemorated by Thunberg, in the South-African genus, *Sparmnia*,—a genus very closely allied to the New Zealand *Entelea*.

Par. 19. *Note*, g. “*Phormium* is only found in New Zealand and Norfolk Island.” Since writing the above I have seen the following in an Auckland paper, (*New Zealander*, Sept. 2, 1864)—“AUSTRALIAN PHORMIUM TENAX.—The *Pastoral Times* of the 13th inst. says,—Large quantities of this plant have been found growing in the mallee scrub on the Lachlan plains. The flax is three or four feet high, and from one inch to two broad. It is stronger in its fibres than the New Zealand flax, and would seem to be exempt from the oily (*sic*) properties which render the New Zealand flax so difficult to convert into useful purposes. It is believed that by the aid of the small steamers running up our rivers, we shall be enabled to collect vast quantities of the article. Some specimens have already been forwarded to Melbourne for the purpose of being tested.” I have great doubts, however, of its being *Botanically* correct.

Par. 23. (iii.) *Note*, h. This chewing of the fresh gum resin of the Kauri pine by the New Zealanders, explains the error

made by Forster, (from Crozet, *Voyage de M. Marion*) who had named the Mangrove (*Avicennia officinalis*, L.) *A. resinifera*; believing, that the gum chewed by the Natives had been obtained from that tree! Forster says, "Gummi ex hac arbore exsudans forte idem est, quo barbari Novæ Zelandiæ homines vescuntur, ut patet e diaris navarchi gallici Crozet." This error has been since repeatedly printed; and, strange to say, more recently by Lindley (who even improves upon it) in his noble "*Vegetable Kingdom*," where (p. 665,) speaking of the Mangrove, he says,— "It exudes a kind of green aromatic resin, which furnishes a miserable food to the barbarous natives of New Zealand." (!)

Par. 30, (i.) *Note*, i. Such is the demand for sarsaparilla, and the limited area where it grows, that (as is well known,) it is greatly adulterated. The true Sarsaparilla is obtained from *Smilax Sarsaparilla*, but several distinct species are used, known in commerce as producing the Peruvian, Brazilian, Lisbon, and Jamaica Sarsaparillas,—and, perhaps, really but little inferior. Another kind, *Smilax glycyphyllea*, has also of late years been introduced into medical use from New Holland; while the roots of 3 sedges, (*Carex arenaria*, *hirta*, and *intermedia*,) are collected to make German Sarsaparilla! The New Zealand plant (*Rhipogonum parviflorum*,) is not only very nearly allied to the genus *Smilax*, but was by its first discoverers, Banks and Solander, and subsequently by Forster, classed under that genus—from which it only slightly differs. From its having been successfully (privately) used in New Zealand, and from its natural affinity, it is confidently hoped, it will prove a useful and valuable article of export; at all events, a far better substitute for the true Sarsaparilla than the 3 German *Carices*. [57]

P.S.—The writer of this Essay wishes to return his best thanks to those few gentlemen who so kindly and promptly responded to his appeal to them. He would most particularly

*A TABLE* Shewing the relative strength, weight, &c., of some of the most useful woods indigenous to the North Island of New Zealand.<sup>248</sup>

NAME OF PLANT, OR WOOD.		Stiffness.	Strength.	Toughness.	Weight per cubic foot.	Specific Gravity.
BOTANICAL NAME.	MAORI NAME.				lbs. oz.	
Dammara australis	Kauri	90	99	102	25 3	.403
" " (best specimen)					26 13	.429
Podocarpus Totara	Totara	49	61	57	39 5	.629
Podocarpus dacrydoides	Kahikatea	54	68	85	31 1	.497
Dacrydium cupressinum	Rimu	90	81	95	34 6	.560
Podocarpus spicata	Mataii	73	67	61		
Podocarpus ferruginea	Miro				48 4	.772
Phyllocladus trichomanoides	Tanekaha	98	103	134	36 7	.583
Vitex littoralis	Puriri	100	100	100	52 5	.837
Leptospermum scoparium	Manuka				57 9	.921
Metrosideros tomentosa	Pohutukawa	126	109	94	52 2	.834

248 WC: See, "The Results of a Series of Experiments on the Strength of New Zealand and other Colonial Woods; by James M. Balfour, C.E.; Appendix C., JURORS' REPORTS of the New Zealand Exhibition, 1865."

Metrosideros robusta	Rata	89	103	138		
Edwardsia grandiflora	Kowhai				43 13	.701
Weinmannia racemosa	Towai				43 6	.674
Weinmannia sylvicola	Tawhero	93	96	99		
Dysoxylum spectabile	Kohekohe	81	72	60		
Tetranthera calcaris	Tangeao	89	119	160		
Knightia excelsa	Rewarewa	54	60	85	53 15	.683
Olea Cunninghamii	Maire raunui				34 5	.549
Nesodaphne Tawa	Tawa				35 4	.564
Nesodaphne Tarairi	Taraire				35 12	.572
Dodonæa viscosa	Ake				63 3	1.011
Myrsine australis	Tipau	78	92	103		

NOTE.—The first 3 columns of figures are from the "*Church Almanac*" for 1847; in which *Vitex littoralis* was made the standard of comparison.—The last 2 columns are from W. W. Saunders's Catalogue, in "*Report of Juries*," Exhibition, 1851. [58]

#### A COMPARATIVE TABLE OF WEIGHT AND SPECIFIC GRAVITY.

NAME OF WOOD.	WEIGHT PER CUBIC FOOT.	SPECIFIC GRAVITY.	REMARKS.
	lbs. oz.		
English Oak	40 14	.654	Epping.
Do.	39 0	.625	Sussex.
Do.	40 10	.714	Wandsworth.
American Oak	42 9	.681	
English Beech	41 2	.658	From Oxfordshire.
Do.	27 6	.488	From Epping.
Riga Fir	37 10	.602	
Malabar Teak	37 14	.606	
Ceylon Teak	47 3	.755	

thank His Honor the Superintendent of Auckland (Robert Graham, Esq.,) and the Chief Provincial Surveyor of that Province, (C. Heaphy, Esq.); also the gentlemen composing the Chamber of Commerce at Wellington. To Mr. Heaphy he is largely indebted for much useful information in Colonial Economic Botany, as well as for that portion of the First Table containing the Weight and Specific Gravity of Woods, and the whole of the last Table herein given.

W.C.

Napier, New Zealand, October 26, 1864.

**1869 In Memory of Capt. J. Cook, R.N.  
and his little band of gallant and  
devoted followers, who first visited  
these shores of New Zealand in  
October, 1769,—100 years ago!  
*Hawke's Bay Herald* 8 October 1869 p.3.**

"Veni, vidi, vinci"—CÆSAR

In the year 1767 it was resolved by the Royal Society, that it would be proper to send persons into some part of the South

Sea to observe a transit of the planet Venus over the sun's disk, which, according to astronomical calculation, would happen in the year 1769; and that the islands called the Marquesas, or those of Rotterdam or Amsterdam (the Friendly Islands), were the most proper places then known for making such observation.

Upon this being made known to His Majesty George III., his pleasure was signified to the Admiralty that a fit ship should be provided. A bark of 370 tons, called the *Endeavour* was taken up for this purpose. She had been built for the coal trade, and a vessel of that construction was preferred for many reasons, particularly because she was what the sailors call a good sea-boat, was more roomy, would take and lie on the ground better, and might be navigated by fewer men than other vessels of the same burden.

The command of her was given to Lieut. James Cook, a gentleman of undoubted abilities in astronomy and navigation, who was soon after, by the Royal Society, appointed, with Mr. Charles Green, a gentleman who had long been assistant to Dr. Bradley at the Royal Observatory at Greenwich, to observe the transit.

While the *Endeavour* was getting ready, Capt Wallis returned in H.M.S. *Dolphin* from his voyage round the world, and he, by letter, written on board of his ship before he landed in England, recommended Port Royal Harbour in King George's Island, or Otaheite, (which had lately been discovered by him,) since known as Tahiti, as the most fitting place for observing the transit; the Royal Society, therefore, made choice of it.

On Friday the 26th August, 1768, the bark *Endeavour* put to sea from Plymouth Sound; her complement of officers and men was 84 persons besides the Commander,—twelve of whom were marines, and nine were servants. Mr. (afterwards, Sir) Joseph Banks, a private gentleman of fortune and of scientific attainments, also embarked in her at his own expense, and with him Dr. Solander, a Swede by birth, who had been educated under the celebrated Linnæus. Sir Joseph Banks also took with him two draughtsmen, together with a secretary and four servants, two of whom were negroes. (And, in visiting New Zealand from Tahiti, Capt. Cook brought with him thence two of the natives of that island, so that the New Zealanders had the opportunity of seeing in his ship men of various nations and races.)

One of Sir Joseph Banks' draughtsmen deserves a particular notice; this person, a talented young man named Sydney Parkinson, (who executed those many beautiful and faithful colored drawings which are still being viewed with admiration in the British Museum,) was a respectable member of that excellent body of Christians the Society of Friends,—and to the writer of this memoir it has ever been a source of real pleasure both to read his very interesting Journal, and to contemplate the amount of good, which, without doubt, arose from such a young man being associated with that select band of early visitors to many of the South Sea Islands including New Zealand. From his Journal a few valuable items of information are taken for this paper.

After a long and adventurous voyage by Cape Horn, on the 13th of April, 1769, the *Endeavour* dropped anchor in Matavai Bay in Tahiti. And on the 3rd of June, the whole transit of the planet Venus across the sun (occupying more than six hours,) was clearly and successfully observed by Capt. Cook, Mr. Green, and Dr. Solander, without a single

intervening cloud having been in the sky. This object of the expedition having been accomplished, Captain Cook proceeded to carry out the remaining part of his orders,—“to prosecute the discoveries in the South Sea.”

On the 13th July, 1769, Captain Cook sailed from Tahiti, taking with him a principal chief, who was also a high priest, from the island, named Tupaea, and his boy Te Ito, a lad of 13 years of age;—of whom we shall bear more anon here on the shores of New Zealand. The ship called at a few small islands; and on the 25th August celebrated the anniversary of their leaving England “by taking a Cheshire cheese from a locker where it had been carefully treasured up for this occasion, and tapping a cask of porter, which proved to be very good.” On Wednesday the 4th October, they saw two seals and some seaweed; on the 5th they thought the water changed colour, but upon casting the lead had no ground with 180 fathom. The captain, however, apprehended they were near land, and (according to Mr. Parkinson), “promised one gallon of rum to the man who should first discover it by day, and two if he discovered it by night; also, that part of the coast of the said land should be named after him.” The next day, Friday, the 6th, about two o'clock in the afternoon, Nicholas Young, the surgeon's boy, descried a point of land from the starboard bow, at about nine leagues distance, bearing W. by N.; they bore up to it, and by sunset had a good view of it. They regaled themselves in the evening upon the occasion; the point was named YOUNG-NICK'S-HEAD, and the boy received his reward. At midnight Captain Cook brought to and sounded, but had no bottom with 170 fathom. On Saturday, the 7th, it fell calm; but in the afternoon a breeze sprung up, and they made for the land, which was the subject of much eager conversation. About 5 p.m. they saw the opening of a bay, upon which they hauled their wind and stood in for it; they also saw smoke ascending from different places on shore. When night came on they kept plying off and on till daylight on the 8th (Sunday) when they found themselves to the leeward of the bay, the wind being at N. By noon they fetched in with the S.W. point, but not being able to weather it, tacked and stood off: at this time they saw several canoes standing across the bay, without seeming to take the least notice of the ship. They also saw some houses, which appeared to be small but neat; and near one of them a considerable number of people collected together, who were sitting upon the beach. Upon a small peninsula at the N.E. head, they perceived a pretty high and rectangular paling, which inclosed the whole top of a hill; this was also the subject of much speculation, some supposing it to be a park of deer, others an inclosure for oxen and sheep. About 4 pm. they anchored on the N.W. side of the bay, before the entrance of a small river, in 10 fathom water, with a fine sandy bottom, and at about half a league from the shore.

In the evening Captain Cook went on shore, accompanied by Sir Joseph Banks and Dr. Solander, with the pinnace and yawl and a party of men. They landed abreast of the ship, on the E. side of the river, which was here about forty yards broad; but seeing some natives on the W. side whom Captain Cook wished to speak with, and finding the river not fordable, he ordered the yawl in to carry them over, and left the pinnace at the entrance. When they came near the place where the people were assembled they all ran away; however, the Europeans landed, and leaving four boys to take care of the yawl, they walked up to some huts which were not far from the water-side. When they had got some distance from the boat, four natives, armed with long lances, rushed out of the woods, and running up to attack the boat,

would certainly have cut her off if the people in the pinnace had not discovered them, and called to the boys to drop down the stream: the boys instantly obeyed; but being closely pursued by the natives, the cockswain of the pinnace, who had charge of the boats, fired a musket over their heads; at this they stopped and looked round them, but in a few minutes renewed the pursuit, brandishing their lances in a threatening manner: the cockswain then fired a second musket over their heads, but of this they took no notice; and one of them lifting up his spear to dart it at the boat, another piece was fired, which shot him dead. When he fell, the other three stood motionless for some minutes, as if petrified with astonishment; as soon as they recovered, they went back, dragging after them the dead body, which, however, they soon left, that it might not encumber their flight. At the report of the first musket, Captain Cook and his party drew together, having straggled to a little distance from each other, and made the best of their way back to the boat; and crossing the river, they saw the native lying dead upon the ground. Upon examining the body, they found that he had been shot through the heart: he was a man of the middle size and stature; complexion brown, but not very dark; and one side of his face was tattooed. They returned immediately to the ship, whence they could hear the people on shore talking with great earnestness and in a very loud tone. A strict watch was ordered to be kept all the night, lest they should come off in their canoes and surprise the ship. The water in the river was found to be brackish, in which Captain Cook was disappointed; but they shot some wild ducks of a very large size, and the botanical gentlemen gathered a variety of curious plants in flower.

In the morning (Monday the 9th), they saw several of the natives where they had been seen the night before. As Capt. Cook was desirous to establish an intercourse with them, he ordered three boats to be manned with seamen and marines, and proceeded towards the shore, accompanied by Sir Joseph Banks, Dr. Solander, the other gentlemen, and Tupaea. About fifty natives seemed to wait for their landing, seated on the ground, on the opposite side of the river, which Capt. Cook and his party thought a sign of fear: at first, therefore, Capt. Cook, with only Sir Joseph Banks, Dr. Solander, and Tupaea, landed from the little boat and advanced towards them; but they had not proceeded many paces before the natives all started up, and every man produced either a long pike, or a small weapon of green stone, extremely well polished, about a foot long, and thick enough to weigh four or five pounds. Tupaea called to them in the language of Tahiti, but they answered only by flourishing their weapons and making signs to them to depart. A musket was then fired wide of them, and the ball struck the water, the river being still between them; they saw the effect, and desisted from their threats; but Capt. Cook and his party thought it prudent to retreat till the marines could be landed. This was soon done; and they marched, with a jack carried before them, to a little bank, about fifty yards from the water-side; here they were drawn up, and Capt. Cook again advanced, with Sir Joseph Banks and Dr. Solander, Tupaea, Mr. Green, and Mr. Monkhouse the surgeon. Tupaea was again desired to speak to them, and it was with great pleasure that Capt. Cook and his party perceived that he was understood, he and the natives speaking only different dialects of the same language. He told them that the ship wanted provision and water, and would give them iron in exchange, the properties of which he explained as well as he was able. The natives replied that they were willing to trade, and desired that their visitors would come over to them for that purpose; to this Capt.

Cook consented, provided they would lay down their arms, which, however, they could by no means be persuaded to do. During this conversation, Tupaea warned Capt. Cook to be on his guard, for that they were not his friends; Capt. Cook then pressed them in turn to come over to his party; and at last one of them stripped himself and swam over without his arms; he was almost immediately followed by two more, and soon after by most of the rest, to the number of twenty or thirty, but these brought their arms with them. Capt. Cook made them all presents of iron and beads; but they seemed to set little value upon either, particularly the iron, not having the least idea of its use; so that he had nothing in return but a few feathers: they offered indeed to exchange their arms for his, and, when he refused, made many attempts to snatch them out of the hands of his party. He then gave them to understand by Tupaea, that he should be obliged to kill them if they offered any further violence. In a few minutes, however, Mr. Green happening to turn about, one of them snatched away his sword, and retiring to a little distance, waved it round his head with a shout of exaltation: the rest now began to be extremely insolent, and more were seen coming to join them from the opposite side of the river. It was therefore become necessary to repress them, and Sir Joseph Banks fired at the man who had taken the sword with small shot, at the distance of about fifteen yards: when the shot struck him, he ceased his cry; but instead of returning the sword, continued to flourish it over his head, at the same time slowly retreating to a greater distance. Mr. Monkhouse seeing this, fired at him with ball, and he instantly dropped. Upon this the main body, who had retired to a rock in the middle of the river upon the first discharge, began to return; two of them ran up to the body, one seized his weapon of green stone, and the other endeavoured to secure the sword, which Mr. Monkhouse had but just time to prevent. As all that had retired to the rock were now advancing, three of Capt. Cook's party discharged their pieces, loaded only with small shot, upon which they swam back for the shore; and it was seen, upon their landing, that two or three of them were wounded. (Mr. Parkinson relates very circumstantially that those natives behaved very well at first,—that they were overjoyed at receiving some presents, that they danced their war-dance, and that three natives were killed by the Europeans on this occasion, whose bodies were left behind by their friends; and that afterwards they took possession of the country in form for the king.)

Capt. Cook then reembarked and proceeded in his boats round the head of the bay in search of fresh water, and with a design, if possible, to surprise some of the natives and take them on board, where, by kind treatment and presents, he might obtain their friendship. He found, however, no place where he could land, a dangerous surf everywhere beating upon the shore; but he saw two canoes coming in from the sea, one under sail and the other worked by paddles. He says:—"I thought this a favourable opportunity to get some of the people into my possession without mischief, as those in the canoes were probably fishermen and without arms, and I had three boats so as most effectually to intercept them in their way to the shore; the people in the canoe that was paddled perceived us so soon, that by making to the nearest land with their utmost strength, they escaped us; the other sailed on till she was in the midst of us, without discovering what we were; but the moment she discovered us, the people on board struck their sail, and took to their paddles, which they plied so briskly that she outran the boat. They were however within hearing, and Tupaea called out to them to come alongside, and promised for us that they

should come to no hurt: they chose, however, rather to trust to their paddles than to our promises, and continued to make from us with all their power. I then ordered a musket to be fired over their heads; hoping it would either make them surrender or leap into the water. Upon the discharge of the piece, they ceased paddling; and all of them, being seven in number, began to strip, as we imagined to jump overboard; but it happened otherwise. When the boat came up, they began the attack with their paddles, and with stones, and other offensive weapons that were in their canoe, so vigorously, that we were obliged to fire upon them in our own defence: four were unhappily killed, and the other three who were boys, the eldest about nineteen, and he youngest about eleven, instantly leaped into the water; the eldest swam with great vigour, and resisted the attempts of our people to take him into the boat, by every effort that he could make: he was, however, at last overpowered, and the other two were taken up with less difficulty. I am conscious (says Capt. Cook), that the feeling of every reader of humanity will censure me for having fired upon these unhappy people, and it is impossible that, upon a calm review, I should approve it myself. They certainly did not deserve death for not chusing to confide in my promises; or not consenting to come on board my boat, even if they had apprehended no danger; but the nature of my service required me to obtain a knowledge of their country, which I could not otherwise effect than by forcing my way into it in a hostile manner, or gaining admission through the confidence and goodwill of the people. I had already tried the power of presents without effect; and I was now prompted, by my desire to avoid further hostilities, to get some of them on board, as the only method left of convincing them that we intended them no harm, and had it in our power to contribute to their gratification and convenience. Thus far our intentions certainly were not criminal; and though in the contest, which I had no reason to expect, our victory might have been complete without so great an expence of life; yet, in such situations, when the command to fire has been given, no man can restrain its excess, or prescribe its effect."

(The writer has preferred giving these excellent words of Capt. Cook without abridgment, as much of them are just as applicable now as they were 100 years ago—and that, too, to the same unfortunate tribe.)

Mr. Parkinson (who was present) says:—"The natives in the canoe began the fight by throwing stones. Our people had recourse to their arms: the Captain, Dr. Solander, and Sir Joseph Banks fired at them, and killed and wounded several of them. The natives fought very desperately with their paddles, but were soon overpowered; their canoe was taken, three of them made prisoners, and the rest were suffered to escape."

The three prisoners squatted down in the boat filled with fear, expecting to be put to death: kindness, however, on the part of all towards them removed their fears, and when they got on board they ate some bread which was given them with great avidity, and answered and asked many questions. At sunset they ate another meal, and went to sleep on beds made for them on the ship's lockers. "Their countenances," the Captain says, "were intelligent and expressive, and the middlemost, who seemed to be about fifteen, had an openness in his aspect, and an ease in his deportment, which was very striking. We found that the two eldest were brothers, and that their names were Tahurangi and Ikerangi; the name of the youngest was Marakowhitii."

Mr. Parkinson says:—"On the 10th, in the morning, the boats went on shore again, and carried the three men whom we had taken, dressed up very finely. They did not seem willing to land at that place, and when we left them, they cried, and said that the people on that side of the bay would kill and eat them. While a party of our men went to cut wood, these three natives hid themselves in the bushes, and many of the natives appeared on the other side of the river. We beckoned to them, and, at length, one man of more courage than the rest, ventured over to us without arms, with whom we conferred, by our interpreter Tupaea, for a considerable time; and, during the conference, about two hundred more, armed with lances, poles, and stone bludgeons, made up to us, which the Captain seeing, and being apprehensive they intended to cut off our retreat to the boats, as they had got to the other side of the river, he ordered us to embark and return to the ship; which we did accordingly, taking with us the three natives whom we had brought on shore, who were unwilling to remain. The body of the man who had been killed the day before, still lay exposed upon the beach; the three native boys seeing it lie very near them went up to it and covered it with some of the clothes that had been given to them. In the afternoon the three natives were set on shore again; they parted very reluctantly from their new friends, and went into the woods; but some time after they were seen to join a party of natives, and towards sunset, came down to the beach and waved their hands three times towards the ship, which having done they rejoined their companions.

Mr. Parkinson says,— "We found here a sort of long pepper, which tasted very much like mace; a bald coot of a dark blue colour; and a black bird the flesh of which was of an orange colour, and tasted like stewed shell-fish. A vast quantity of pumice-stone lies all along upon the shore within the bay, which indicates that there is a volcano in this island."

"The next morning, the 11th, at six o'clock," says Captain Cook, "we weighed, and stood away from this unfortunate and inhospitable place, to which I gave the name of POVERTY BAY, and which by the natives is called Te Oneroa, or Long Sand, as it did not afford us a single article that we wanted except a little wood. It is in the form of a horse-shoe, and is known by an island lying close under the N.E. point, called by the natives Te Tuamotu. The S.W. point of the bay I named Young-Nick's-Head, after the boy who first saw the land."

In the afternoon the ship lay becalmed, when several canoes put off, and came within less than a quarter of a mile of the ship, but for a long time could not be persuaded to come nearer, though Tupaea exerted all the powers of his lungs and his eloquence upon the occasion. Another canoe was now seen coming from Poverty Bay; this made directly for the ship, and the natives were soon on board; their example was soon followed by the rest, to whom liberal presents were made. About sunset they left, leaving three of their people on board the ship. A light breeze springing up soon after it was dark, they steered along the shore under an easy sail till midnight, and then brought to, soon after which it fell a calm.

On Thursday, the 12th, about seven a.m. a light breeze springing up, the ship continued to stand S.W. along the shore. Two canoes came off to her; but stopped at some distance. The three natives who had been last evening left on board, and who had been bitterly lamenting their being carried along the Coast away from their homes, tried by

every possible means to get the two canoes to come alongside. Tupaea interpreted to Capt. Cook what they said to their countrymen, and the Captain and his party were much surprised to find, "that, among other arguments, they assured the people in the canoes, the foreigners in the ship did not eat men." One of those canoes came alongside and an old chief well-dressed came on board; he staid but a short time, and took the three natives with him. At this time they were abreast of a point, from which the land trends S.S.W. and which, on account of its figure, Captain Cook named CAPE TABLE. A little after noon they passed a small island, which, says the Captain, "I named PORTLAND ISLAND, from its very great resemblance to Portland in the English Channel: It lies about a mile from a point on the main. N. of E. two miles from the south point of Portland lies a sunken rock, upon which the sea breaks with great violence. We passed between this rock and the land."

In sailing along the shore they saw the natives assembled in great numbers as well upon Portland Island as the main; and also noticed several spots of ground that were cultivated. About noon another canoe came near, but would not go alongside the ship. About 2 p.m. they discovered land to the West of Portland, extending to the southward as far as they could see; and as the ship was hauling round the South end of the island, she suddenly fell into shoal water and broken ground; in a short time, however, they got clear of all danger. Capt. Cook says:—"At this time the island lay within a mile of us, making in white cliffs. On the sides of these cliffs sat vast numbers of people, looking at us with a fixed attention,—and it is probable that they perceived some appearance of hurry and confusion on board, and some irregularity in the working of the ship, while we were getting clear of the shallow water and broken ground, for five canoes put off with the utmost expedition, full of men, and well armed: they came so near and shewed so hostile a disposition, by shouting, brandishing their lances, and using threatening gestures, that we were in some pain for our small boat, which was still employed in sounding; a musket was therefore fired over them, but finding it did them no harm, they seemed rather to be provoked than intimidated, and I therefore fired a four-pounder, charged with grape-shot, wide of them: this had a better effect; upon the report of the piece they all rose up and shouted, but instead of continuing the chace, drew altogether, and after a short consultation, went quietly away."

Having got round Portland Island, they hauled in for the land N.W. having a gentle breeze at N.E., which about five o'clock died away, and obliged them to anchor, in one and twenty fathoms with a fine sandy bottom. While they lay at anchor two more canoes came off to them; these came so near that they entered into conversation with Tupaea, answering all his questions with great civility, but would not go on board; they received however several presents from the ship.

About five aim of Friday the 13th, a breeze springing up northerly they weighed and steered in for the land. Capt. Cook says, "The shore here forms a large bay, of which Portland is the N.E. point, and the bay that runs behind Cape Table an arm. This arm I had a great inclination to examine, because there appeared to be safe anchorage in it, but not being sure of that, and the wind being right on end, I was unwilling to spare the time. Four and twenty fathom was the greatest depth within Portland, but the ground was everywhere clear. The land near the shore is of a moderate height, with white cliffs and sandy beaches; within, it rises

into mountains, and upon the whole the surface is hilly, for the most part covered with wood, and to appearance pleasant and fertile. In the morning nine canoes came after the ship, but whether with peaceable or hostile intentions we could not tell, for we soon left them behind us. In the evening we stood in for a place that had the appearance of an opening but found no harbour; we therefore stood out again, and were soon followed by a large canoe, with about twenty men, all armed, who, though they could not reach us, shouted defiance, and brandished their weapons, with many gestures of menace and insult."

"In the morning of Saturday the 14th, we had a view of the mountains inland, [Ruahine] upon which the snow was still lying: the country near the shore was low and unfit for culture, but in one place we perceived a patch of somewhat yellow, which bad greatly the appearance of a cornfield, yet was probably nothing more than some dead flags, which are not uncommon in swampy places: at some distance we saw groves of trees, which appeared high and tapering, and being not above two leagues from the S.W. cod of the great bay, in which we had been coasting for the two last days, I hoisted out the pinnace and long-boat to search for fresh water; but just as they were about to put off, we saw several canoes full of people coming from the shore, and therefore I did not think it safe for them to leave the ship. About 10 a.m. five of these canoes having drawn together, as if to hold a consultation, made towards the ship, having on board between 80 and 90 men, and four more followed at some distance, as if to sustain the attack: when the first five came within about a yard of the ship, they began to sing their war song, and brandishing their pikes prepared for an engagement. We had now no time to lose, for if we could not prevent the attack, we should come under the unhappy necessity of using our firearms against them, which we were very desirous to avoid. Tupaea was therefore ordered to acquaint them that we had weapons which, like thunder, would destroy them in a moment:—a four-pounder, loaded with grape shot, was then discharged wide of them, which produced the desired effect; the report, the flash, and above all, the shot, which spread very far in the water, so intimidated them, that they began to paddle away with all their might. Tupaea, however, calling after them, and assuring them, that if they would come unarmed, they should be kindly received; the people in one of the canoes put their arms on board of another, and came under the ship's stern; we made them several presents, and should certainly have prevailed upon them to come on board, if the other canoes had not come up, and again threatened us by shouting and brandishing their weapons; at this the people who had come to the ship unarmed, expressed great displeasure, and soon after they all went away. In the afternoon we stood over to the S. point of the bay, but not reaching it before it was dusk, we stood off and on all the night."

Mr. Parkinson says,—"In sailing along the shore of the bay on the 13th, we could plainly distinguish land that was cultivated, parcelled out into square compartments, having some sort of herbs growing upon them. On the 14th, in the morning, we bent our course round a small peninsula" [Scinde Island,] "which was joined to the main land by a low isthmus, on which were many groves of tall straight trees, that looked as if they had been planted by art; and within side of it the water was quite smooth. We saw some very high ridges of hills, streaked with snow; and when we had doubled the point of this peninsula, the low isthmus appeared again, stretching a long way by the sea side. The

country looked very pleasant, having some sloping hills, which stretched out into beautiful green lawns, though not covered with wood, as other parts of the Coast are."

From this extract we learn, that the entrance to the Ahuriri inner harbour was formerly much more to the N.W. than it now is; this is also shewn by Cook's chart of the Bay; and native tradition confirms it. Twenty-six years ago, when the writer first travelled over the Western Spit, the remains of the old entrance were very visible, and indeed long remained so. It was not very far from abreast of Capt. Carter's residence. Formerly there were also, as Parkinson says, several groves of white pine scattered on the plains; (four have wholly disappeared within the writer's recollection,) and "Tareha's bush," before it was in part felled, always looked remarkably well and prominent from the N.W.

Capt. Cook proceeds,—“At eight a.m., on Sunday the 15th being abreast of the S. point several canoes came off to us, and sold us some stinking fish; it was the best they had, and we were willing to trade with them upon any terms: these people behaved very well, and we should have parted good friends if it had not been for a large canoe, with two and twenty armed men on board, which came boldly up alongside of the ship. We soon saw that this canoe had nothing for traffic, yet we gave them two or three pieces of cloth, an article which they seemed very fond of. I observed that one man had a black skin thrown over him, somewhat resembling that of a bear, and being desirous to know what animal was its first owner, I offered him a piece of red baize, and he seemed greatly pleased with the bargain, immediately pulling off the skin, and holding it up in the canoe; he would not, however, part with it till he had the cloth in his possession, and as there could be no transfer of property, if with equal caution I had insisted upon the same condition, I ordered the cloth to be handed down to him, upon which, with amazing coolness, instead of sending up the skin, he began to pack up both that and the baize, which he had received as the purchase of it, in a basket, without paying the least regard to my demand or my remonstrances, and soon after, with the fishing canoes, put off from the ship; when they were at some distance, they drew together, and after, a short consultation returned; the fishermen offered more fish, which, though good for nothing, was purchased, and trade was again renewed. Among others who were placed over the ship's side to hand up what we bought, was little Te Ito, Tupaea's boy; and one of the natives, watching his opportunity, suddenly seized him, and dragged him down into the canoe; two of them held him down in the fore part of it, and the others, with great activity, paddled her off, the rest of the canoes following as fast as they could; upon this the marines, who were under arms upon deck, were ordered to fire. The shot was directed to that part of the canoe which was farthest from the boy, and rather wide of her, being willing rather to miss the paddlers than to hurt him; it happened, however, that one man dropped, upon which the others quitted their hold of the boy, who instantly leaped into the sea, and swam toward the ship; the large canoe immediately pulled round and followed him, but some muskets, and a great gun being fired at her, she desisted from the pursuit. The ship being brought to, a boat was lowered, and the poor boy taken up unhurt, though so terrified that for a time he seemed to be deprived of his senses. Some of the gentlemen who traced the canoes to shore with their glasses, said, that they saw three men carried up the beach, who appeared to be either dead or wholly disabled by their wounds. As soon as Te Ito

recovered from his fright, he brought a fish to Tupaea his father, and told him, that he intended it as an offering to his Atua, or God, in gratitude for his escape; Tupaea commended his piety, and ordered him to throw the fish into the sea, which was accordingly done.”

With reference to this affair, Mr. Parkinson says,—“On the 15th we had several fisher canoes come to us; and, after much persuasion, they gave us some fish for cloth and trinkets; but none of their fish was quite fresh, and some of it stank intolerably. They went away very well satisfied, and then a larger canoe, full of people, came up to us, having their faces shockingly besmeared with some paint. An old man who sat in the stern, had on a garment of some beast's skin, with long hair, dark brown, and white border, which we would have purchased but they were not willing to part with anything. When the captain threw them a piece of red baize for it, they paddled away immediately; held a conference with the fisher's boats, and then returned to the ship. We had laid a scheme to trepan them, intending to have thrown a running bowline about the head of the canoe, and to have hoisted her up to the anchor; but, just as we had got her ahead for that purpose, they seized Tupaea's little boy, who was in the main-chains, and made off with him, which prevented the execution of our plan. We fired some muskets and great guns at them, and killed several of them. The boy, soon after, disengaged himself from them, jumped into the sea, and swam toward the ship, and we lowered down a boat and took him up, while the canoes made to land as fast as possible.”

In 1844, the writer saw at Waimarama an aged native who remembered this sad event; and also obtained from several natives, descendants of the sufferers on that occasion, their account of the affair, received from their forefathers; five, it appears, were killed, and several wounded; one of the poor fellows had received a ball in his knee joint which made him a helpless cripple during a long life.

Captain Cook says, “To the cape off which this unhappy transaction happened, I gave the name of CAPE KIDNAPPERS. It is rendered remarkable by two white rocks like hay stacks, and the high white cliffs on each side. It lies S.W. by W. distant thirteen leagues from the isle of Portland; and between them is the bay of which it is the south point, and which in honour of Sir Edward Hawke, then first Lord of the Admiralty, I called HAWKE'S BAY.”

“About two o'clock in the afternoon, we passed a small but high white island, lying close to the shore, upon which we saw many houses, canoes, and people. It was totally barren, and I named it BARE ISLAND. We saw several people also on shore, upon the main, within the island. At eleven p.m. we brought to till daylight, on Monday the 16th, and then made sail to the south-ward along the shore. At noon a high bluff head, with yellowish cliffs, bore W., distant about two miles. In the afternoon we had a fresh breeze at west, and during the night variable light airs and calms. In the morning of Tuesday the 17th, a gentle northerly breeze sprung up, and having till now stood to the southward, without seeing any probability of meeting with a harbour, and the country manifestly altering for the worse, about one in the afternoon I tacked and stood north, with a fresh breeze at west. The high bluff head with yellowish cliffs I called CAPE TURNAGAIN, because here we turned back. The land between it and Cape Kidnappers is not so well clothed with wood as it is about Hawke's Bay; it is, however, to all appearance, well inhabited, for as we stood along the shore,

we saw several villages, not only in the valleys, but on the tops and sides of the hills, and smoke in many other places."

"On Wednesday the 18th, in the evening, being abreast of the peninsula within Portland Island, a canoe came off from that shore, and with much difficulty overtook the ship; there were on board five people, two of whom appeared to be chiefs, and the other three servants: the chiefs, with very little invitation came on board, and ordered the rest to remain in the canoe. We treated them with great kindness, and they were not backward in expressing their satisfaction; they went down into the cabin, and after a short time told us that they had determined not to go on shore till the next morning. As the sleeping on board was an honour which we neither expected nor desired, I remonstrated strongly against it, and told them, that on their account it would not be proper, as the ship would probably be at a great distance from where she was then, the next morning; they persisted, however, in their resolution, and as I found it impossible to get rid of them without turning them by force out of the ship, I complied: as a proper precaution, however, I proposed to take their servants also on board, and hoist their canoe into the ship; they made no objection, and this was accordingly done. The countenance of one of these chiefs was the most open and ingenuous of all I have ever seen; they both examined everything they saw with great curiosity and attention, and received very thankfully such little presents as we made them; neither of them, however, could be persuaded either to eat or drink, but their servants devoured everything they could get with great voracity. We found that these men had heard of our kindness and liberality to the natives who had been on board before, yet we thought the confidence they placed in us, an extraordinary instance of their fortitude. At night I brought to till daylight, and then made sail; and at seven in the morning of Thursday the 19th, I brought to again under Cape Table, and sent away our guests with their canoe, who expressed some surprise at seeing themselves so far from home, but landed abreast of the ship."

Having thus given a tolerably succinct outline of what was seen and done by Capt. Cook during his first ten days on our shores,—in which there was very little of a profitable or pleasing nature to either the visitors or the visited, the relation of the northward course of the gallant barque and her Captain and company must end here for want of space. Before, however, that the historical subject is finally dropped, it may be mournfully interesting briefly to notice how very rapidly many of the actors who were engaged in the busy scenes of those 10 days passed away; seeing too, that not a few of their names are recorded in the history of our neighbourhood and E. Coast localities. At Batavia, on their homeward voyage, they lost several men Mr. Monkhouse the Surgeon, Tupaea the Tahitian and the boy Te Ito—the little hero of Cape Kidnappers! Almost the last entry in Mr. Parkinson's journal is his affecting relation of the death of Tupaea and his boy, which I copy:—

"We were staying at Cooper's Island while the Ship was repairing at another small island called Unrust. Tupaea and Te Ito, whom the Captain designed to have brought to England, died there. They had been several times up to Batavia, and expressed great surprise at the many various objects to which they had been unaccustomed; having, before our arrival at Batavia, made great progress in the English tongue in which they were greatly assisted by Mr. Green the astronomer, who took much pains therein, particularly with Te Ito. When Te Ito was seized with the

fatal disorder, as if certain of his approaching dissolution, he frequently said to those of us who were his intimates, "Taiau mate oee," —My friends I am dying. He took any medicine that was offered him; but Tupaea, who was ill at the same time, and survived him but a few days, refused every thing of that kind, and gave himself up to grief; regretting, in the highest degree, that he had left his own country; and when he heard of Te Ito's death he was quite inconsolable, crying out frequently, "Te Ito! Te Ito!" They were both buried in the island of Eadam. During our stay at Batavia most of us were sickly; while there one of the midshipmen ran away and was never afterwards heard of; and another died."

A few days after leaving Batavia, the same disorder which had carried off so many there, began to rage with great violence in the ship; and in a few days carried off Mr. Green the astronomer, Mr. Sydney Parkinson, and Mr. David Spovin secretary to Sir Joseph Banks, (whose names were given to the two islets off Uawa in Tologa Bay,) the boatswain, the carpenter, and the mate, the sailmaker, the corporal of marines, two of the carpenter's crew and nine seamen.. On their arrival at the Cape, they were in great distress, not having more than six men fit for duty; so that they could not send a boat on shore! Three days after leaving the Cape, Mr. Molineux, the master of the ship, died, (after whom the harbour in Southland was named,) and shortly afterwards Mr. Hicks, the first lieutenant, died, whose name had been given to the bay near the East Cape: (Sir Joseph Banks' second draughtsman, a Mr. Buchan, had died before, also two of his servants;) while every one knows of the sad untimely end of the able and brave leader of the band within a few short years afterwards!

To write a just panegyric, however well-merited, on such a Commander of such an expedition sent on a long, unknown, and dangerous service, and in such times, would require a far abler pen than that of the writer of this paper. No formal monument has yet been erected in this country to his memory; and it may be justly said, "*Si monumentum requiris, circumspice!*"<sup>249</sup> But posterity will give it. Upwards of 30 years ago the writer was often struck with astonishment, in travelling over then little known beaches, to find the coast so very accurately laid down by Cook, from only once seeing it and that from his ship in passing! Well might the early French navigator M. Crozet, say,—"I compared with care the chart which I had drawn of the portion which we ran along of the coast of New Zealand, with that taken by Capt Cook. I found it to possess an exactness and minuteness which astonished me beyond all expression. I doubt whether our own coasts of France have been delineated with more precision." (*Voyage de M. Marion*, p. 38.)

With one more quotation from Cook which is given entire, as shewing the true genuine manly English heart of this great man, to whom all colonists are so much indebted, (and which is almost needful in these our degenerate times, when Justice is so often travestied by colonists Juries and Judges)—the writer will close this "labor of love." Cook, who was at this time at anchor near the Bay of Islands, says:—"While here some of our people, who, when the natives were to be punished for fraud, assumed the inexorable justice of a Lycurgus, thought fit to break into

<sup>249</sup> *Lector, si monumentum requiris, circumspice* = Reader, if you seek his monument, look around you (part of Christopher Wren's epitaph).

one of their plantations, and dig up some sweet potatoes: for this offence I ordered each of hem to be punished with twelve lashes, after which, two of them were discharged; but the third, insisting that it was no crime in an Englishman to plunder a native plantation, though it was a crime in a native to defraud an Englishman of a nail, I ordered him back into his confinement; from which I would not release him till he had received six lashes more."

—“Venient annis  
Sæcula seris, quibus Oceanus  
Vincula rerum laxet, et ingens  
Pateat tellus, Tiphysque novos  
Detequat orbes; nec sit terris  
Ultima Thule.”—SEN.<sup>250</sup>

WILLIAM COLENZO.

**1871 Fiat Justitia;<sup>251</sup> being a few thoughts respecting the Maori prisoner Kereopa now in Napier gaol, awaiting his trial for murder. Respectfully Addressed to the considerate and justice-loving Christian Settlers of Hawke's Bay, and also to our Rulers, in a Letter to the Editor of the “Hawke's Bay Herald.”**  
Napier, Dinwiddie, Morrison & Co. 23p.<sup>252</sup>

250 In later years a new age will come in which Ocean shall relax its hold over the world, and a vast land shall lie open to view, and Tethys shall reveal a new world, and Thulē will not be the last country on earth.

251 Let justice be done.

252 In 1862 Maori leader Te Ua Haumene based a new religion on the principle of *pai marire*—goodness and peace. He called his church Hauhau: Te Hau (the breath of God) carried the news of deliverance to the faithful. *Pai Marire* disciples travelled the North Island with a message of peace, but violent elements often subverted its mission. The government began to confiscate land, and *Pai Marire* converts aimed to drive Pakeha from Maori land. They wanted the support of the Kingitanga in creating a Maori nation under the Maori king. In the minds of many Europeans, *Pai Marire* was synonymous with violence, fanaticism and barbarism, a fundamentally anti-European religion. The fact that other Maori fought against this new religion was seen as further evidence that *Pai Marire* represented a radical fringe. The government worried that the religion would unite Maori opposition to European settlement and soon supported anti-*Pai Marire* factions. In 1864 George Grey declared *Pai Marire* practices to be “repugnant to all humanity” after *Pai Marire* followers had paraded the severed head of a Captain Lloyd around the North Island. *Pai Marire* was to be suppressed by force if necessary. Kereopa Te Rau was one of the five original disciples of Te Ua Haumene, and was one of a *Pai Marire* party that hanged the missionary Carl Volkner. Kereopa is said to have swallowed Volkner’s eyes: the *Hawke's Bay Times* referred alliteratively to this as “The murder and mastication of a missionary” (12 October 1865). This letter is Colenso’s argument against his execution. Ironically, it was a group of *Pai Marire* supporters who, in keeping with their practices, burned Colenso’s church at Ahuriri in 1866. (<http://www.nzhistory.net.nz/politics/pai-marire/pai-marire-intro>).

“Audi alteram partem”<sup>253</sup>

Thrice the brinded cat hath mewed  
Thrice; and once the hedge-pig whined.” *Macbeth*

Shall the sword devour for ever: knowest thou  
not that it will be bitternesss in the latter end?

—*Old Chronicle*.

TO THE EDITOR OF THE “HAWKE'S BAY HERALD.

I.

SIR,—During the past week I have wished to give utterance to a few thoughts respecting the unhappy Maori prisoner Kereopa now in our gaol. At one time I entertained the notion of giving a lecture about him and Te Kooti, and the Hauhau fanaticism in general; but this, for the present, I have abandoned. I am glad, too, that I did not write to you last week; as then (from what I could hear, and see in our papers,) there was much of a nature that was objectionable, reminding me forcibly of the old Nursery Tale of the Giant and his refrain—

Fee fa fum,  
I smell the blood of an Englishman (read Hauhau)  
I will and must have some.”

And which, of course, I should have to deal with. Not that such a spirit or feeling does not now exist; but folks (including myself) are a little more calm today,—and a few words conveying a few facts (forgotten, it may be, in the midst of much of everyday hurly-burly and din,) may not altogether be written in vain.

I address myself, therefore, firstly, to the thoughtful and considerate justice-loving *bona fide* settlers of this Province, and in particular to those who have families growing up around them; and, secondly, to those in authority. Premising, however, that the justice I speak of, is that which is true real and Divine,—allied to compassion to the oppressed, and mercy to the sufferer; and not that mock unreal shadowy figment called justice, too often (to the shame of the 19th century) found in our Courts of Law!

What I have to say, will be,—To shew good and valid reasons why mercy should be extended to the unhappy man Kereopa; and this not so much by way of begging, or as a matter of political expediency, as by its being the only just and proper course, or corollary, for us and our rulers to pursue.

It may be asked, what right have I, a private person, to come out in this kind of way? and this I will answer at once—*in limine*. I step out then on this occasion into the arena:—

1. Because, in 1865, I did, as Member for Napier, in my place in the House of Representatives, both move and support certain resolutions touching on this very question.<sup>254</sup>
2. Because there, as a member, I read all the official correspondence and Government information respecting it.

253 Hear the other side—i.e. no person should be condemned without a fair hearing.

254 Colenso’s motion in the General Assembly that all Māori prisoners should be treated with equal clemency helped bring down the Weld Ministry.

3. Because I am in possession of certain facts, which, possibly not many (if any) besides myself in the Province possess.
4. Because my long experience among the uncivilised New Zealanders—prior to the arrival of, and their intercourse with, settlers—has taught me, that they are (or naturally were) a patient and justice-loving people; but, if they could not have justice they would have revenge,—cost what it would!
5. Because I believe that while all will talk in all manner of ways about a thing, few are found to investigate it closely and reasonably.
6. Because an intricate matter, extending, too, over years, can never be fairly dealt with except by commencing at the very beginning: and, also, because I firmly hold the following axioms:—

1. That in all -isms (to mention only a few of the prominent modern ones,—Rationalism, Communism, Mormonism, Fenianism, and Hauhauism); there is a germ of truth: it is this which gives vitality; it is this which causes men to embrace it. (Would that rulers would, or could, “take a note of it”!)
2. That many a poor fellow would have been reformed and saved “from lowest depths of woe,” and become a valuable member of society,—if society in general, and Christian Churches in particular, had but acted a *kinder* part towards him, for

“Evil is done by want of thought,  
As well as want of heart.”

3. That the Devil is neither so black nor so ugly as he is painted. [4]

## II.

The Hauhau superstition originated at Taranaki in 1864, while we were fighting with the natives. It was begun by a native named Te Ua, who had been known for many years to the Europeans as a very good man, and who, in the wreck of the Lord Worsley steamer, did all that he could to prevent his people from, plundering the wreck. He now announced himself as a prophet, divinely commissioned by the angel Gabriel to succour and relieve his suffering countrymen. He was believed in by many, and, he sent out his servants, or colleagues, all over the island; among others he sent a chief, named Patara to visit the East Coast, and to induce the then populous tribes residing here to join them. Patara had with him in his party the prisoner Kereopa, now in our gaol, and they carried with them the head of a Capt.. Lloyd, who had been killed in fighting. The party came to Opotiki, the Rev. Mr. Volkner’s station, by way of Tarawera lake, where the Rev. Mr. Spencer was residing; they did, however, no harm to Mr. Spencer.

On their arrival at Opotiki they commenced haranguing the people; the fame of the new religion having preceded them; and soon gained many adherents. And there can be little doubt, that, under their fanatical zeal and their maddening orgies continually being practised by day and night, they were more or less insane.

Most unfortunately, after only a few days’ sojourn at Opotiki, a small vessel arrived from Auckland, having on board Mr. Volkner and a Mr. Grace (another Minister). This was considered by them as highly confirmatory of their new religion, as their god had thus given their enemies into their

hands! Mr. Volkner was soon seized and cruelly killed, for his alleged political offences against the Maoris, as well as by way of revenge for the more serious offences charged against the Government.

There can be little doubt, that the prisoner Kereopa was more or less concerned with many others in all that took place.

Shortly afterwards a young half-caste named Fulloon, balding a subordinate office in the Government service, was also killed by his own excited Hauhau tribe in the neighborhood of Opotiki, on his arriving among them in a little vessel, for similar political offences real or alleged.

Here I would quote a few words from an able and cautiously-written letter by the late Chief Justice of New Zealand, Sir William Martin, to the Native Minister; it is dated September 23, 1865. Speaking of the state of things at Opotiki preceding Mr. Volkner’s death, Sir William says:—“No spot in the island was better prepared to receive this fanaticism than Opotiki. The people of that place had sympathised in the Waikato, and some of them had taken part in the war. Various circumstances had caused their Minister (Mr. Volkner) to be suspected of being in secret correspondence with the Government on the subject of their disaffection. The feeling of the people became more bitter when their leading chief Aperotanga, who had been wounded and taken prisoner by our allies, was murdered by a woman of that tribe (the widow of Pekama Tohi), in revenge for the death of her husband who had fallen in the war. Yet this provocation did not at once lead them to retaliate on Mr. Volkner. Even two men of the offending tribe who had come into the district from the eastward in ignorance of all that had passed were spared. The cry of blood which arose from the widows was rebuked by a woman, and the men were fed, conducted to the western boundary of the district, and sent on their way... Mr. Volkner having again visited Auckland, was continually troubled by the thought of the miserable condition of his people. Their cultivations had been neglected, and a low fever, caused by the lack of food, had carried off more than 150 persons. It appeared to be worthwhile to try the effect of an attempt to minister to them. He resolved therefore to revisit them... A small vessel was seen entering the river, and it was discovered that Mr. Volkner was on board. As the people cluster on the banks of the river the Hauhau leaders pointed to the vessel as a proof of the magical power of the new worship which had brought their betrayer into their hands.”

And, again, after Mr. Volkner’s death, he says:—“Even after this foul crime the superstition continued to spread. Patara, who was himself not present at the murder, proceeded with his party to Turanga (Poverty Bay). He kept Kereopa in the [5] background, and spoke of the murder as a misfortune, a great blow to a good cause. Even then, men who had for years exhibited a sober, thoughtful character, were induced to join, carried away by what the Maori calls “Aroha ki te iwi” (pity for the people), what we should call a strong sympathy with the National cause. The Maoris were strongly effected by the novel practices and the burthen of the worship, and especially by the bitter crying and wailing for their countrymen slain, and their land seized by the pakeha.”

Indeed, the chiefs of Opotiki, in writing to the Government after Mr. Volkner’s death, told them what had been done, and of the reasons, and what Europeans might further

expect; they say:—"Friends, this is a word to you. Mr. Volkner, Minister, is dead. He has been hung according to the laws of the New Canaan, in the same manner as it has been ordained by the Parliament of England that, the guilty man be hung. Mr. Grace, Minister, is captured, and is in the prison of the New Canaan, which was arranged by us in the same manner as that which the Parliament of England instituted, that the guilty man be imprisoned. Friends, do not you ask (as if you did not know), "What is the cause of that wrong?" This alone is the cause; firstly, the deception practised upon our island by the Church. That Church said that they were sent hither by God; but now we are aware that they were sent hither by the knowing Society of the Church of England; secondly, the sin of the Governor at Rangiriri,—his murder, the women are dead; thirdly, Rangiaohia, where the women were shot; that is now an unalterable law of the Governor's. We are now aware, with regard to those laws, that they were made by the authority of England. Why is not the Governor ashamed?... Friends, our island is now aware of your doings. Listen. You catch the Maoris, we kill the pakehas. You hang the Maoris and we hang the pakehas. Release to us Hori Tupaea and we will then let go Mr. Grace; but if you withhold Hori Tupaea, we will also withhold Mr. Grace."

The chief Wiremu Tamihana te Waharoa also, in his two long and sad petitions of grievances to the General assembly, dated April and July 1865, complained of pretty nearly the same things; he says:—

"To the Parliament at Wellington. Salutations. Hearken. I will tell you the causes of the trouble which has disturbed this island. I write to you all because I have heard people say, that you are the men selected to inquire into the wrongs of the Maoris and pakeha.... For a period of 20 years we had no desire to fight with the pakehas, notwithstanding during that period we were numerous and you, the pakehas, were few. And how was it that we did not wage war with you at that time, when we were in the majority and when you were few?... When it came to be time of the murder at Rangiaohia, then I surely knew, for the first time, that this was a great war for New Zealand. Look also: Maoris have been burnt alive in their sleeping-houses! Because of this, I did not listen to the words of the pakehas disapproving of the evil of the Maoris' mode of fighting, which partook of the nature of cruelty. 'When the women were killed at the pa at Rangiriri, then, for the first time, the General advised, that the women should be sent to live at places where there was no fighting. Then the pa at Paterangi was set aside as a place for fighting, and Rangiaohia was left for the women and children. As soon as we had arranged this, the war party of Bishop Selwyn and the General started to fight with the women and children. The children and women fell there! Before this time our desire was great to put away the customs of our forefathers—ambuscades and surprises, and other modes of warfare by which the enemy could be destroyed. Do not say that the words of advice are thrown away upon us. No the words of advice are regarded by us; it was the affair at Rangiaohia which completely hardened the hearts of the Maori people. The reason was the many instances of murder. Now let me count them. First, the commencement of this war was Rangiriri, a murder; Rangiaohia, a murder. The taking of the river of Horotiu was also a murder,—a murder of men and a murder of land. My reason for calling the taking of Horotiu a murder is, that the General said, he would not carry the war into my territory. but after this he brought his men to occupy my [6] country (Horotiu), to fight also with my tribe; but I was not

willing to fight with him; I, and my people, and also the King, departed, and left our land to be cut up without cause by him. I believed in his peaceable word."— This petition is dated, April 5, 1865, just a month after the death of Mr. Volkner.

There are many official papers to the same effect, indicating too plainly the deep-seated feeling of long-borne injury in the Maori mind. Sir W. Martin also clearly shews that he was aware of this; in his letter already quoted, he says:— "The practical fact with which we have to deal is this: the old feeling of distrust and exasperation towards our Government has been strong enough to lead thoughtful men incapable of being parties to such acts, to join the Hauhau cause, even after the commission of the great crime at Opotiki. This is our real difficulty; the same in kind as ever, but greater in degree. I believe that this feeling is now more deep and more widely spread than at any time. I believe there are now many who are convinced that we are determined, even by fraud and violence, to get possession of their land, and force our dominion upon men who have never consented to it. Many, therefore, on their part determine to hold their own as best they may, and are content to sacrifice their lives in the contest. The state of the case is this: we have put too great a pressure upon these people, more than they can bear, more than we can continue to exert; we have driven many of the natives into a state of determined resistance, bordering on desperation; we have brought upon ourselves the necessity of bearing burdens beyond our strength."

An extract from a statement of Mr. Agassiz, a European surgeon resident at Opotiki at the time, is worthy of notice, as shewing how these deluded Hauhaus were again unfortunately confirmed in their new religion, and that, too, from a quarter we should least have expected it, viz., the first English man-of-war sent against them; he says:—

"The Opotiki natives did not make any pa or fortification. They said, if any soldiers came their god would defend them. They instance, the retreat of the crew of H.M.S. Eclipse, as one of the interpositions of their god in their behalf. That steamer had landed several soldiers; they marched up to a pa occupied by twelve natives, and they were frightened by their god and ran away. (*In answer to a question.*) I believe the number of natives in that pa is correctly stated. A sailor was shot, by his own comrades. The natives assert they never fired a shot on the night when the sailors landed; the firing was all done by the pakeha. They found on the beach some sand which had been stained with the blood of the wounded sailor; they also picked up some four or five cartridges. The sand containing the blood was carefully collected, and with the cartridges placed on a board beside the sacred post. After the usual ceremonies of encircling the post and singing Pai Marire songs, each person advanced to the board, bowed low, and thanked the good god of the Pai Marire for making the pakehas shoot their own people."—

Subsequently, as is well known, much mischief and loss of life was caused everywhere on the East Coast, from Opotiki to Hawke's Bay, through that fanatical party of excited Hauhaus headed by Patara. The East Coast tribes, once populous, have been ruined, and their consequent loss has been altogether above 1000 lives! but of all this I do not now care to speak.

### PART III

On the 2nd September 1865, while the General Assembly was in session, the Governor issued his famous "Proclamation of Peace," in which he stated, that, "the war is at an end;" that "sufficient punishment had been inflicted, and so much land confiscated as was thought necessary; that all who have been in arms would never be prosecuted for past offences, excepting only those who have been concerned in the murders of the following persons (naming 8); and the chief Te Pehi, because, having taken the oath of allegiance he violated his oath, and treacherously attacked the Queen's troops Pipiriki; when taken, he will be brought to trial for this crime. All others are forgiven. Out of the lands which have been confiscated in the Waikato, and at Taranaki, and Ngatiruanui, the Governor will at once restore considerable quantities to the natives, &c. The Governor will take [7] no more lands on account of the present war. The Governor is sending an expedition to the Bay of Plenty to arrest the murderers of Mr. Volkner and Mr. Fulloon. If they are given up to justice, the Governor will be satisfied; if not, the Governor will seize a part of the lands of the tribes who conceal these murderers, &c.

On the 4th of September (only two days after the aforesaid "Peace Proclamation,") the "Proclamation proclaiming martial law throughout, the districts of Opotiki and Whakatane was issued. The "expedition" sailed from Wellington to Opotiki without a Civil Magistrate; arriving there, they immediately (without even a formal parley or demand of the murderers) commenced military operations, killing (as per official return) in the first three days 16 of the natives (sex not shown), utterly destroying their war pah and villages, and also all their cultivations for miles. The following is an extract from what was then published:—"After the (first day's) fight the British flag was waving where Volkner was murdered. Judging from expressions of feeling around our camp fires, the conclusion is unavoidable, that it will not require a very, large gaol to hold our prisoners; we have not sufficient men to tell off as a guard, and we have nothing but a church to put them in—which is too good for such a purpose. Thirteen dead bodies of the enemy were counted this day, and twelve more a few days after."

Other engagements took place afterwards in that district, and very many more natives were slaughtered; the number, however, is not known.

Subsequently a large number of them were also taken prisoner; these were conveyed to Auckland, tried, and several of them hung there, while others of them were imprisoned.

The land ("500,000 acres") was also confiscated.

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Here I pause awhile in my recital to ask, if any one, after reading the foregoing brief and meagre yet faithful outline, can say, that "the murders of Mr. Volkner and Mr. Fulloon" were not most amply avenged?

For my own part I candidly confess, that, to this day, I have never been able to see the justice of this most complicated proceeding; which, remember, was not done in a hurry. The carefully drawn, and plain and full "Peace Proclamation" was issued six months after the murder of Mr. Volkner. In it the Colony was informed, that "the war was at an end;" that

"the Governor was sending an expedition to arrest the murderers. *If they are given up to justice the Governor will be satisfied; if not the Governor will seize a part of the lands of those who conceal the murderers;*" not, however, as in former cases, for the Crown, but "and will use them for the purpose of maintaining peace in that part of the country, and of providing for the widows and relatives of the murdered people." But nothing of the kind was attempted—may I not rightly say, *intended*? seeing that no Civil Magistrate accompanied the said expedition, and that a proclamation levying war unconditionally on that district was actually issued previous to the expedition leaving Wellington! The Governor himself broke his own terms, and chose again to initiate war in the island and Colony only two days after he had announced peace, and that without any thing new calling for his doing so. I, therefore, cannot see the justice of beating the unhappy Opotiki Hauhaus with *both ends of the stick!* Either (one would suppose) by civil law, or by fighting and confiscation, but not by *both*. I waive, for the present, the enquiry as to the Governor's legal power to proclaim martial law at all,—there, or anywhere else in the Colony.

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To proceed: I should have stated, that the Act first making (or "deeming") the Maoris to be British subjects, was assented to on the 20th September 1865; a fortnight after the visit of the aforesaid expedition to Opotiki.

In March, 1866, the Governor visited those parts in H.M.S. Eclipse, and thus reports in a despatch to the Right Hon. E. Cardwell, dated the 23rd of that month:—"At Opotiki I found the Hauhau fanatics entirely subdued, and tranquillity fully established. The disturbances which have for so long a time unhappily prevailed are thus at an end, and I see every reason to hope that the existing tranquillity will not again be disturbed, and that New Zealand will continue rapidly to progress."

On this occasion the Governor took with him the Hauhau prophet Te Ua, the prime [8] mover and Originator of the whole Hauhau movement, who had also been recently charged with murders on the West Coast. At Te Awanui, near the East Cape, where the "Eclipse" anchored, and the Governor saw some of the loyal chiefs, Mokena and others, they were highly indignant at seeing Te Ua on board as his Excellency's companion, and were with great difficulty restrained from laying bands on him—as the cause of so much misery and loss of life; Mokena assured the Governor that if Te Ua went on shore his people would kill him.

The Governor in a despatch, written also to Mr. Cardwell, six days after the former one, from Raglan (Kawhia), speaks thus of Te Ua:—"Rewi and his followers were within thirty miles of me, celebrating the religious services of the Hauhau fanatical faith, whilst Te Ua, the former prophet and founder of this faith, and framer of these religious services, was taking part in the service of the Church of England on board H.M.S. Eclipse, having renounced the Hauhau doctrines, and having made a full statement (If the delusions under which he was suffering when he imagined he had those visions which led him to found and promulgate the Hauhau superstition.)"

Te Ua was landed at Auckland a free man; and Patara, too, has since been allowed to go free. (For my part I do not

object to this; I think it, under all the circumstances, a wise and proper policy.)

Notwithstanding the Governor's statement in his despatch, of the great tranquillity at Opotiki, and of the entire subjugation of the Hauhaus at that place, martial law was not revoked there until the 6th of January 1867; some ten months afterwards!

I may here mention in passing (as I do not intend to deduce anything from it) the following highly curious circumstance (not, however, without its well-known parallel in history), viz., that although the Government received a very large amount of written information concerning the death of Mr. Volkner (I having read more than twenty letters and statements, written and signed by a great number of persons, European and Maori, many of whom were resident on the spot), scarcely two of them agree, save in his having been killed; indeed, some of them strangely contradict each other.

Messrs. Volkner and Fulloon were killed in 1865, and in the same year was the dreadful retribution exacted. Where, then, has the prisoner Kereopa been during those six subsequent years? A miserable fugitive in the mountain recesses, perpetually hunted, and fleeing from place to place with his life in his hand—*coput lupus!* £1000 was the price set upon his head by one of the Ministry of the day (although such was not agreed to in the (General Assembly in 1865, when the question was brought before them, and was also subsequently censured by the Home Government); yet, to the honor of the poor starving, half-clad Maoris of those parts, who knew of his retreats, and who suffered largely for concealing him, not one allowed himself to be seduced by such a golden bait! No doubt, if all his adventures and hair-breadth escapes during that long and miserable time could be written, they would vie in romantic and perilous incidents with those of the Pretender and his son (James Stuart and Charles Edward Stuart) in the Highlands of Scotland, which also served to exhibit the good qualities of the highlanders; but with this great addition on the part of the Maoris, that their trial of good qualities extended over so much longer time, and under far greater miseries and privations, and that he, poor wretch! had no ultimate hope,—no silver lining to his black cloud,—no friendly foreign court, or power, to flee to!

#### IV.

I have already shewn, that in the "Proclamation of Peace," all natives who had been in arms were unconditionally forgiven, and assured that they would never be prosecuted for past offences: excepting only those who had been engaged in eight murders, therein specified; and, also, a chief named Te Pehi, for violating his oath and treacherously attacking the Queen's troops.

In a proclamation, however, dated Oct. 5, 1864, (and again in a later one of December of the same year, issued just two months before Mr. Volkner was killed,) the murderers of upwards of thirty persons, men women and children, all therein named, are specially excepted from pardon,—as [9] against many of them coroners' juries had returned a verdict of wilful murder. Now of all these thirty, nearly all of whom were quiet settlers, only four are mentioned and included in the eight subsequently given in the "Proclamation of Peace;" so that, by that proclamation of the second of September, 1865, the murderers of 26 of our people were absolutely forgiven, though hitherto repeatedly declared to

be legally and specially excepted. Not a few, too, of those 26 who were murdered were (if possible) less deserving of so sad a fate than Mr. Volkner, (as the natives had nothing individually against them) and certainly they were very much less deserving of it (politically speaking) than Mr. Fulloon, a Government officer, and, by the mother's side, belonging to the tribe which killed him.

The chief Te Pehi, who was specially excepted from pardon in the aforesaid proclamation, for violating his oath of allegiance and for his treacherously attacking the Queen's troops (as already stated), was also pardoned by notification in the Gazette for 1867, page 338.

Again, in a later proclamation dated October 2, 1865, £1000 is offered for the apprehension of three natives named therein, "the murderers of Kereti," the Governor's messenger or bearer of the aforesaid "Proclamation of Peace" to the West Coast tribes. They would not have his peace, thus made by himself within the four walls of his study, so quietly foisted upon them; as a fighting people, used to the ways and terms of peace-making, they did not understand it. Here, it should be borne in mind, that (as in the case of young Fulloon) this native Kereti was one of themselves: the Government of the day, however, did not seem to know, or to consider, this. These three natives, like Te Ua and Patara, have also been allowed to go free:—and rightly so, as I take it.

I will not now enter into the vexed question whether those Maori were belligerents or "rebels," enough for me at present that, on the one side, were a handful of natives driven to fight for their lives and liberties,—their lands their children and their homes,—or rather, to sell them as dearly as possible, (as our forefathers English, Irish, Scotch, and Welsh, have often done), and on the other side the might and majesty of Imperial Britain, lowered and debased in this distant part of the Empire, to do that which could not have been legally done nearer the Home Country.

And here I will state my great surprise at this Maori prisoner Kereopa being brought to this small place (town) for trial. He is neither a native of this province, nor is Opotiki where Mr. Volkner was killed within it, neither was he taken within its boundaries. I know very well the wise practice of our ancestors of allowing a change of *venue* for a prisoner that he may have a fair trial; but can such be thought of here?—rather, is it not all t'other way?—It may be (such things are talked of "by the man in the street,") that since certain persons high in authority have been balked in their wish as to hanging drawing and quartering, that they will try hard for the next to it, and have an unhappy Maori hung, &c., in every little place in the North Island, and so demonstrate "the terror and dread majesty of the law!" Vain idea. If such be the case, then such persons miserably mistake. For to such men as our prisoner, who have long ago counted the cost, and who "are content to sacrifice their lives in the contest," (as Sir W. Martin ably and truthfully expresses it,) all such considerations are most puerile;—shewn, indeed, in his manfully and heroically attempting to commit suicide the moment he fell into the Christians' (!) hands.

I would also call your attention to two remarkable documents, bearing on the subject now before us,—viz. two despatches from two noblemen, successively British Secretaries of State, relative to our past Maori executions. (Will the thirsty of Napier and Hawke's Bay also please to "take a note of it?"

In October, and also in November, 1869, Governor Bowen wrote lengthy despatches to the British Secretary of State, Earl Granville, respecting the Hauhau prisoners, then lately tried at Wellington, when a large number were quickly sentenced to death and something else; enclosing of course, the famous "Charge," and other similar documents. Now how were they answered by Earl Granville? By a single despatch of 5 lines, in these words:—

"I have to acknowledge the receipt of [10] your despatches of — and of —, reporting the final decision arrived at, and the execution of only *one* of the prisoners. I observe with great pleasure the lenient course adopted by the Government of New Zealand."

Again; in July, 1870, Governor Bowen wrote another very long despatch to the Secretary of State, concerning 30 more of the Hauhau prisoners, who had recently been tried at Wellington, and, of course, sentenced to death (but not, *this time*, to be hung drawn quartered, &c., &c.), in which despatch the Governor *again* brings in the Judge's "Charge" to the jury of the *last year!* (sent by him in his despatch mentioned above, but then as a separate document,) and this time actually incorporated into the body of his despatch! (Just as it has again more recently been brought forward by the present Ministry in their speeches in the session of the General Assembly just closed:—serving as a kind of "stock gravy!") And, no doubt, to this despatch some more pleasing more suitable reply was expected:—and what was the answer? I give it complete, below, as it should long ago have been published throughout New Zealand.

"Downing-street, 7th October, 1870.

Sir,—I have the honor to acknowledge the receipt of your Despatch No. 91, of the 28th July, informing me of the course pursued with regard to the members of Te Kooti's band recently tried before the Supreme Court at Wellington for levying war against the Queen. I am very glad to find that it has not been found necessary to execute any of these prisoners.

"I have, &c. (signed), KIMBERLEY.  
"Governor Sir (I.F. Bowen, G.C.M.G.)"

Any comment on the above few terse and pregnant words would be superfluous, and as vain as to attempt to gild gold or paint the lily. They are all the more striking when read in connexion with the long and florid despatches they are replies to, To me, as an Englishman, it is especially pleasing to find such instances in these days, when so much is spoken and written against our British House of Lords and British Nobility. Thank GOD, I say, that we have still among our British noblemen, men possessing noble hearts and minds!

One sentence, however, in the Governor's despatch of July, 1870, I would like to give equal publicity to, as it reflects credit on our own member for Napier, Mr. M'Lean, and shews a little (through a crevice as it were) of how he must have acted in the consultation of the Governor and his Executive on this occasion. The Governor says:—"Mr. M'Lean and all those who know the Maoris best, believe that the lenity of the Government has produced a favorable effect on the native mind generally. They think, in short, that in this as in other countries, the maxim holds good which declares that 'the grass soon grows over blood shed on the battle-field, but rarely over blood shed on the political scaffold.'"

Yes, Mr. M'Lean was right in so speaking of lenity to the erring deluded Maoris; such will indeed he appreciated by

them; such, steadily pursued, will go a great way to win them back again—if such can ever again be effected! Some people, however (whether from temperament, or from the peculiar hardening bias of their profession—like some lawyers, or from prejudice, or the obliquity of their mental vision,) delight in speaking *ex cathedra* in strong language; vainly supposing that strong words so spoken necessarily convey strong ideas! Just as some others rap out oaths with every sentence; or as some parsons in a church, where they know they cannot be answered. Such people know not the power and majesty of a mild rebuke, neither would it answer for them to attempt it. I could at any time make a New Zealand youth weep by a few mild touching words, whereas a torrent of invective has only the very opposite effect; so true it is—

"One touch of nature makes he whole world kin."

It is not amiss to state what the Native chiefs themselves now think of our prisoner Kereopa; some of them, too, having severely suffered through the Hauhau invasion. It so happens that I am in Communication with several of them, and I know some of their thoughts. (I do not speak of the *paid* emissaries of the Government, neither of any other *proteges* or proselytes; such, parrot-hike, always repeat the key-note struck or indicated by their masters.) The natives say, (1.) That it is not just to punish him now, because the Governor pardoned Te Ua and Patara, the originators of [11] the evil, the greater men, and the greater criminals. In other words, our own law maxim, *Qui facit per alium facit per se*. (Native justice.) 2. That as the Governor chose his mode of visiting the crime at Opotiki by a war party (*tawa*), and killing so many for the murder of one man, that, if Kereopa should now be punished for his acts, then the Governor and those who levied war afresh there for this crime and killed so many of the natives should also be tried and punished. (Native justice again.)

Let us hear, again, the clear-headed lawyer Sir W. Martin; he says:—"Not only in newspapers but in public documents from the commencement of these troubles the hostile natives have been called rebels. It is now admitted that a large portion of the native population has never intelligently, or at all, assented to our dominion, and therefore remains where Capt. Hobson found it. Such portions of the population are still what the terms of our first national transaction with them admitted them to be. Small communities entitled to the possession of their own soil, and to the management of their own internal affairs. This is their position at present. Those, therefore, who are actually in arms against us are to be regarded as enemies in war,—as hostile but *not* criminal. If so, then so far as these communities are concerned, the Acts and Proclamations are not properly laws, but simply announcements that the stronger party will take the lands of the weaker. The taking itself is an act of war, an act of the Queen, to whom alone belongs the prerogative of peace and war. It is for the English nation, therefore, finally to determine how the "giant's strength" of England is to be used. The object of the war itself was to repress and terminate the efforts which the natives were making to set up a separate nationality, but though that effort was a great folly it was *not* a great crime."

The Natives also say (or have said), that this continuous pursuit after Kereopa and Te Kooti, and the consequent hunting down and slaughtering in cold blood of so many men women and children, is not now from the Government but from the Church (!) kept up by the Williams' (*Te*

*Wiremu ma*) in revenge for the uprooting of their Mission Station at Poverty Bay, and for the killing of a minister, &c.

In your issue of Nov. 30, you tell us,—“that steps are being taken to collect evidence of the murder of Mr. Volkner,” and. that “the Keera (steamer) will bring the witnesseses to Napier on her return trip.” And no doubt she will bring *quantum suff.*, and they will be well “shepherded”! I read with disgust the statements made by some of the Maori witnesses brought forward by the Government at the political trials of Hauhaus at Wellington, and only wished that I had had the cross examining of some of them! Allow me to tell you of two matters which occurred, highly applicable here; in 1846, I walked, as usual, to Wellington; arriving there I found the Hutt troubles had begun, and four Natives were then in chains on board of H.M. steamer “Driver,” at anchor off Pitoone, charged with the murder of settlers at the Hutt. I stopped in my tent among the Natives at their village, Pitoone. I heard a good deal. I knew, also, that the four unhappy Maoris in fetters were all intent on committing suicide. I sent them word not to do so. In Wellington I saw Mr. St. Hill the respected R.M., I told him all that I had heard; subsequently he allowed me to see the depositions—eight, I think, taken before him. They were all most plain, most positive; eight Settlers, decent ones, too, nil swearing dead point-blank against those four natives. I returned to Pitoone with a heavy heart; and spent a day or two more there; during that time I gained quite enough to convince me of the innocence of those four prisoners of what they were charged with—by a most clear and striking *alibi*. I wrote it down and sent it to Mr. St. Hill, as I could no longer stay in those parts, begging that a Special Commission might be appointed to try them. The present Bishop of Wellington, then confined to his bed at Mr. St. Hil’s, took the matter up; they were soon tried and were all acquitted. So here, in Napier, in 1862; the young Native from Te Wairoa committed for the murder of his wife would have been convicted by super-abundant Maori evidence brought against him by his own people! had not I and others exerted ourselves: he, too, was acquitted. Their very statements, however preposterous, he would not deny or rebut; [12] and, indeed, virtually pleaded Guilty!—i.e., they, my people, my fathers and superiors, say so, and I won’t gainsay it.—This is in strict accordance with old native custom.—I merely, however, mention these two cases now to shew,—1. That one cannot always believe what even respectable witnesses say as to what took place, in a great tumult; 2. That I should be very chary as to believing Maori witnesses deposing against any Hauhaus, especially if in the pay of Government in country districts, and brought forward (selected) by Government officials; the said Hauhaus not belonging to their tribe, and being (rigidly or wrongly) popularly obnoxious.

I should like to say somewhat about Hauhauism, which has been, and is, much misrepresented. Many of those who have written about it—(“bothered,” I might, truly enough, say, the Government, with forcing upon them their crude notions,)—knowing least about it. I cannot, however, enter fully on it now; but this much I will say—1. That some of its prayers, of which I have more than 40 composed for various occasions, are truly beautiful good and pious.<sup>255</sup> (Witness, also, that sublime prayer, uttered up before Mr. M’Lean at Waikato when he went to visit Rewi, and which has been published.) They are all correctly addressed, too,

to the One true God—Jehovah; and are such as I could well use myself. 2. That I have heard from most trustworthy Europeans, resident on the West Coast and in other parts, that they would rather deal with a Hauhau than with a “Missionary” or “Christian” Native, —as the former was civil honest and truthful; while the latter were often bounceable deceivers and liars. And, I would ask, is it fair to charge the atrocities committed by some of the insane Hauhaus in the height of their mad fanaticism upon the whole body as a part of their belief? any more than to charge the Christian Church, whether Romanist or Protestant, with their equal abominations which some of their mad or persecuting followers have committed? Those who do so know little of Ecclesiastical history, whether past or present:—in ancient days, the thousands who have been anathematized and put to death by their fellow Christians on account of the use or disuse of the letter *i* in their creed!—in modern times, the hundreds of highly educated English Christians (?) who are now cordially hating each other, about robes, positions, postures, genuflections, crossings, and holy water!—in all which, as I take it, they are in the matter of pure religious worship infinitely below the simple uneducated Hauhau.—

For, think you, God loves our tame levelled acres  
More than the bare crag of some heaven-kissed hill?  
Man’s straight-dug ditch, more than His own free river,  
That wanders, He regarding, where it will?

So about Cannibalism, (Nay, don’t start, I am not going to support it, simply because there is no such thing practised in New Zealand. With much snore propriety you may charge tie citizens of Paris with such a deed.) To me, however, the mere ill-usage of the dead body of an enemy, even to the eating the flesh, is not so bad as the killing him, whether by the bayonet or *mitrailleuse*. Particularly if such a custom, however horrid, has always been practised among them. It is the reckless slaughter of *living* men! how many of our so-called European heroes and kings have attained that eminence by guilt and crime? daring

—“to wade through slaughter to a throne.”

If the deeds of Kereopa and the deeds of Napoleon should ever be viewed in a stronger clearer more just and divine light than either that Aluminium or Electricity, which of the two would be seen to be the greater scoundrel? “*Judge not according to the appearance, but judge righteous judgement.*”

Then as to “the extreme sentence of the law” (as it is termed by us) the penalty of death is not always so considered, never has been by all nations; degradation, and servitude, and banishment, with many, is still the heavier, the unbearable punishment—the one that tells most upon the living. Witness—Toulon; the unhealthy marshes of Cayenne, and the frozen deserts of Siberia; and nearer still, our Norfolk Island, formerly. That Oriental prince knew human nature well, acted wisely, when he carried about his prisoner in a cage in chains. So did our Henry VII when he made Lambert Simnel, who had publicly been crowned King of Ireland [13] with a golden Crown taken from a statue of the Virgin Mary, a scullion in his kitchen,— notwithstanding his bold invasion of England and the many lives it cost. With all aboriginal nations, who think lightly of human life and of suicide—degradation and imprisonment and banishment, are far worse punishments than death. Our rulers seem to have ignored all this. Besides, with a Native people like ours, no greater hold could a Government ever obtain over the free for their good behaviour, than by a

255 WC: Specimens will be given in the appendix at the end of this pamphlet.

*discreet* humane management of the Maori prisoners. (This, with other similar matters, I pointed out to Governor Browne, in 1861.)

I have called your attention to what the Native Chiefs think of our prisoner; it is also worth while to consider their present attitude towards us; especially as we are now largely committed to such an extensive extension of Public Works throughout the Island.—What do they think of us, and of the Government, in their heart of hearts? Are they satisfied, or dissatisfied? I say, highly dissatisfied; and this feeling, rightly or wrongly, is daily increasing—even among those who, 3-5 years ago, were our friends and “loyal Natives.” What Sir W. Martin wrote then, is still more true, more applicable now:—“The practical fact with which we have to deal is this, the old feeling of distrust and exasperation towards our Government.... this is our real difficulty.... I believe that this feeling is now more deep more widely spread than at any time. I believe there are now many who are convinced that we are determined even by fraud and violence to get possession of their land.” (Let the rapacious reckless “Landsharks” of Hawke’s Bay consider this,—and what follows, already given, *ante*.) They are dissatisfied (including the members of Parliament) at the various Acts formerly passed by the Government against them, and not even amended in this last session. Speaking of some of those acts, Sir W. Martin shews that they are against English Law; and he further says,—“within 12 months two Acts have been passed, which, if they should actually remain as law, would leave to scarcely any Maori in the Country any security for the retention of an acre of his land.” And again, speaking generally of recent enactments,—“In all this business of bringing the Natives within the operation of the law, it behoves us to be ourselves careful to act according to law, and that the Law of England. As long as we are able to say, “This is part of the Law of England,” we ensure is certain degree of acceptance.... they are willing to recognise in the greatness of our Nation a proof of the excellence of all laws. But we offer them as a boon the name of English subjects, and they find that in practice for them that name is to mean subjection to hard rules, which no man in England is subject to.”

Yes, they are dissatisfied.—1. As to the constitution and working of the Native Land’s Court, through which they are fast losing their lands. 2. As to the double-tongue (*arero ruā*) of the Government, ever promising and cajoling, but doing nothing. Their patience, even of the “loyal Natives,” is getting well-nigh exhausted; witness their complaints and petitions to the General Assembly, made too often in vain for redress, little or no attention being paid to them, at all events no alleviation is granted; the burden is as of yore. And 3 The chronic fighting, or slaying of their people; or, as they say, the double dealing of the Government, as against offenders—both by civil *and* by Martial Law; not merely life and land (of the offender), but the wholesale killing, of the innocent and helpless, by day and by night, under the pretext of obtaining *one* offender. In this respect the Governor (who has to bear the blame of all) is often by them likened to a bloody thief of olden time called Te Whatu, who, when he went on his small marauding and killing expeditions, and had done as much mischief as he cared for, would say,—“It’s over now; all right; come back and dwell;” and then, in a few days, or weeks, he would return again to slay; so he was named Te Whatuarerua, which name is now commonly given to the Governor and Government,

Perhaps in no one thing has our Government lost influence with the Maoris more during the last few years than in this—their perpetual hunting and slaying of the helpless ones in the interior under the miserable subterfuge of pursuing Te Kooti! [14] We, the early missionaries to this people, had the utmost difficulty in bringing the native tribes to leave off their seeking recompense for offences in this kind of way—by armed murdering prowling bands. Eventually, however, Christianity triumphed, and it was put down everywhere. Now, however, the Government has revived it, and they, I fear, will bye-and-bye find out their very serious error. But their doing so has caused the natives to think and talk and brood over their wrongs more than ever. Look, for a moment, at that last sad case (one of many similar ones,) reported in your paper a few weeks ago: of the murderous band of mercenary bloodhounds surrounding a small village by night, and shooting down suddenly and unexpectedly 6 unoffending natives (3 men and 3 women) and wounding others! Were these British subjects? No one *here* lamented them; no Christian female settler even said, How shocking! But, had such a deed been done by the Prussians when overrunning France, all England would have rung with the atrocity, and our Napier papers would have copied it—but these, alas! were Hauhaus!

Our Premier, the Hon. Mr. Fox, on the 7th ult., in the House of Representatives, moved an address to the Queen respecting the melancholy death of Bishop Patteson, which address concludes in these words:

—“And we pray that your Majesty may long live as the protector of the weak and defenceless in every part of the world.”—To which good words I respond heartily, Amen. But, “Charity begins at home;” and our Premier might have thought of those wretched “weak and defenceless” Maories in the mountains of New Zealand, so long harassed and hunted and killed by the mercenaries of the Government. There was a time when he could speak eloquently in their defence, as “men of like passions with ourselves.” As it is, such can only remind one of what Dickens so forcibly tells us of Mrs. Jellyby and her telescopic philanthropy for educating the African children of Borrioboola-Gha, while her own family around her were utterly without it!

Why it is, that the ministers of our various Christian churches have not long ago stood up unitedly in the defence of the oppressed, I cannot divine. In rude ancient times, the bishops, abbots, priors, priests, and presbyters, were always found in the van, loudly denouncing all such ill-usage, even when made by their own nobles and kings. But then the clergy led and tended and taught their flocks, being independent of them; now, alas! they follow in the ruck, and preach to please their sleepy fat sheep (as we have seen in the clergy of the American slave-holding States,) being wholly dependent on them.

Of one thing however I feel it to be my duty to tell my fellow-settlers, of our rulers, (and they know I am not an alarmist,)—that if this unhallowed proceeding of secretly slaughtering the natives in the woods and mountains in the interior is not quickly put a stop to, they must prepare for the inevitable result. Let them remember the wise proverb,—“It is the last straw (hot heavy weight) which breaks the camel’s back.” Let them look at the sad fate of Bishop Patteson, and be warned in time. The same fell spirit is abroad—here, as in the Melanesian Islands, and will surely be followed by the same terrible results. Tragedies, far more fearful than those of Opotiki, Poverty Bay, and Mohaka, will yet be enacted. The innocent will again suffer

for the guilty. To me it is really marvellous, the patience and forbearance of those harassed fugitives,—in those dreadfully cold and wet regions without fire or food. Surely some day their blood will be avenged by a righteous GOD! Let the believer in the inspiration of the Old Testament read the former part of the 21 chap. of 2 Samuel, and con.

The Government and Colony has more than once been engaged in considering the best means to oppose invasion, but, I fear, they have never yet duly considered the *growing discontent* (Fenianism) *within*: 'tis thus which has to be considered and prepared for: here is the great danger, in case of any war with England. Be wise in time. *Verba sat sap.*

As one of the latest proofs of the double-tongue on the part of the Government, the natives speak of the following; it should appear, that the four Maori members before they left Wellington waited on the Government respecting the standing sore of the continued imprisonment and servitude of the Maori political prisoners at Otago, when their release was promised at [15] Christmas. This satisfied them; and was also published here in our papers. Since their return, however, the Governor and Ministry have visited Whanganui, and among the requests made there on that occasion by the chiefs was, to repeat what had been already asked for and granted; when the reply was a half-refusal, and, eventually, that the Native Minister would think over it! This is also published in the papers. Well may Sir W. Martin say,—“With all this delay and uncertainty, projects put forward and never carried out, one expectation after another raised and disappointed, the soreness and distrust of the natives will remain unallayed, or even increased; many more will come to say, what too many say already, that our plans and proposals to them are *maminga*,—devices to cheat them and to gain time.”

And again,—“The great principle of all our policy towards the natives, the one hope of success in overcoming their fear arid distrust of us was expressed by the first Native Minister in words which ought not to be forgotten,—*The fears of the natives can be calmed, and the peace of the country secured, only by a policy which seeks not theirs but them*” (Mr. (now Judge) Richmond's Mem.)

Before, however, that I close this part of my subject, I must say a word about some of their petitions to the General Assembly, to which I have alluded. From those of W. Tamihana te Waharoa I have already briefly extracted; there are many others of that class,—from those natives and tribes who have been in arms against us; I will not touch these; I will confine myself to those from our friends, and from some of the most eminent and prominent of our “loyal natives.” 1. There is a very able one from Karaitiana last year, in which he unmistakeably tells the Government, that he and his will not submit to having their lands taken from them under the guise of law, &c., and ventures constitutionally to warn them of consequences. 2. This year, there is one from Tamihana te Rauparaha (son of the famed chief Te Rauparaha), and other West Coast chiefs, in which, after narrating their troubles and fears, mainly arising from the very large amount of Government arms and ammunition left in the hands of several of the West Coast tribes, and of the probability of Maori war, and that these petitioners had applied in vain to the Government, they say,—“Some of us are in great distress, and have begun to think, that the Government have no regard for, nor do they draw near to peaceful people. Our tribe have for many years been living in peace, and have been patient through the troubles which

have occurred in this island: we have steadfastly kept to our Churches and to our schools, and have been faithful to the Queen, and have upheld her laws even up to this year. Our applications to the Government, have not been heeded.” 3. Then there is a most remarkable petition from Paul (Pauro) Tuhaere, the proud chief of Orakei, the Maori founder of Auckland City, and the steadfast friend and visitor of all the Governors, and who, a few years ago, was chosen by the then Superintendent of Auckland (Mr. Williamson) to a seat in the Executive Council of that province! And what does he complain of? That he cannot get justice from the Government. That, for years, he has complained to each and every Governor, including the present, Governor Bowen, and the Native Minister, Mr. M'Lean, to do him justice, and pay for the land they have unjustly taken and sold. Will it be believed, that that land is the valuable property of Taurarua near Auckland containing 252 acres? Where Bishop Selwyn lived and built his Church and College, and where Sir W. Martins has always dwelt! Will it be believed, that the new law is such that as Crown Grants have been issued to the occupiers (the Government having sold it and got the money), the Native Lands Court will not investigate his claim? The petition is a long one, and is well worthy attentive perusal—not so much on account of the alleged deep wrong, as to shew the patience and the love of justice inherent in the Maori, arid the working of the native mind, and the strong deep dissatisfaction which exists (even in the bosoms of such loyal men) against our Government. I must make a long extract or two, as his account of an interview with the late Governor, Sir G. Grey, is too rich, too characteristic, to be lost.

—“That Sir G. Grey returned to the Colony as Governor in the place of the said Thomas Gore Browne, and your petitioner [16] knowing that it was in the time of the said Sir G. Grey that your petitioner's land had been finally taken away, waited upon the said Sir G. Grey; accompanied by the Chief Te Keene Tangaroa. The said Sir G. Grey asked your petitioner what he had to say. Your petitioner replied, “I have come to converse about Taurarua, the land you heard of at the time of your first arrival in the Colony as Governor.” Sir G. Grey replied, “That is correct, Paul, but what is to be done in the matter?” Your petitioner answered, “I want payment for that piece of land.” Sir G. Grey said, “Paul, don't demand too heavy a payment. How much do you require?” Your petitioner replied, “£4000.” Sir G. Grey said, “That is far too much. You had better compromise it.” Your petitioner replied, “Now, according to your idea, how much should it be?” Sir G. Grey said, “£1000.” Your petitioner replied, “The reason I ask £4000 is, that my land was taken away for no reason, and without my consent.” Sir G. Grey said, “Agree to take the £1000.” Your petitioner replied, “Will the £1000 be paid at once?” Sir G. Grey said, he would speak to his Council and he asked your petitioner to return on the following day.”

They did return, hut nothing definite was effected. Then arbitration, at the request of the Governor, was resorted to, in 1862; which, Paul says, was in his favor, but nothing came of it.

Paul, however, throughout his Petition speaks nobly; reminding one of a certain Araunah, “who, as a King gave to the King” his land; (such a contrast to the heavy-pursed European land-and money-grabbers!)—not wishing to drive a hard bargain: he says,—

“That your Petitioner does not wish your honorable Assembly to restore Taurarua aforesaid to him, as

Europeans are now inhabiting the land, and Crown grants have been issued for portions of the same, but he wishes to obtain compensation for the loss of his said land—for your petitioner and his descendants will always maintain that the same was unjustly taken away."

"That your Petitioner would most humbly and respectfully remind your honorable Assembly that he has always been a faithful and loyal subject of Her Most Gracious Majesty Queen Victoria, and that your Petitioner has been the constant friend of the Europeans since their first arrival in Auckland.

Another pregnant sentence must not be omitted. Paul quotes what he had told the Conference of Native Chiefs at Auckland in 1860; Mr. M·Lean being also present, and presiding on behalf of the Government. It was with reference to the twelfth paragraph of the Governor's address to them, just delivered, in which he addressing the Native Chiefs had said;—"It is your adoption by her Majesty as her subjects which makes it impossible that the Maori people should be unjustly dispossessed of their lands or property. Every Maori is a member of the British Nation; he is protected by the same law as his English fellow-subject."

Paul replied—"Listen all of you! The Governor has got possession of Taurarua, and I have not yet seen the payment. The land is occupied by Bishops, Judges, and great people, but I am not paid for it. I applied to the first Governor for redress, and to the second, the third, and fourth, without obtaining it. Matapipi (another estate) has also been taken from me. I did not receive any payment for it. I am continually urging payment for those pieces of land. Had these lands belonged to some people, they would have made it a greater cause for war than that which originated the present one" (namely, the Taranaki war, that was at that time being carried on). "I content myself with constantly asking for satisfaction. Now, listen all of you! If the matter is not arranged on this occasion, and if life is spared to me for two or three years, I shall go to England to the Queen about it."

All, however, was in vain! and it is thus, in numberless cases, that the Government has succeeded in estranging from them some of their best Maori friends.

And this from Paora Tuhaere! the friend of all the Governors!! the constant guest at Government house!!! the petted Maori Lion with all noble visitors, from H.R.H. the Duke of Edinburgh downwards!!!! the only Maori chief ever selected to sit in an Executive Council of the Colony!!!!

"Tell it not in Gath!"— [17]

I addressed a letter to you in April 1869, pointing out what I then believed best calculated to establish a lasting peace between the two races:—the first step towards which was, to do justice and to proclaim a general amnesty. Oh! that that letter had but been considered!<sup>256</sup> I feel daily more and more assured that the way pointed out therein was "the right way." It would, no doubt, have cost some money, but not so much as the present policy (or "drift") is costing, and will and must continue to cost. Besides, by that plan, the Colony would have permanent and settled Peace—which it sadly wants. But by that plan the thousand-and-one who now derive a gainful trade by the present miserable chronic war,

and the keeping-up of unprofitable scattered outlying redoubts and dépôts, would find, alas! their occupation gone.

While writing the foregoing, I have thought, that it is just possible that some few of my fellow-townsman may suppose (from my former official connection with the Maoris, and my having lived so many years among them,) that I am now writing in defence of this prisoner Kereopa, merely because he is a Maori: such, however, is not the case. And, as I do not wish to fall out with my fellow-townsman, nor that they should fall out with me, I now add,—that I do this solely in the cause of strict and pure and holy justice. Were he an Irish Fenian, an American Mormon, an English traitor, or a "heathen Chinee," I would do exactly the same, *if* (as in this case) *his crime had been already signally and amply punished IN ANY WAY CHOSEN BY THE GOVERNMENT OF THE DAY*. Had that not been done, then I would certainly cry for justice on Kereopa and some others. It is to prevent another great act of injustice being perpetrated here among us, under the guise of the high and holy name of Law that I do this:—to save our provincial escutcheon from another dark and damning blot! which not the sun of to-day nor of to-morrow, but of coming times will reveal.—Witness, Tasmania!

## VI

### RESUME, OR SUMMARY.

Those who have carefully read and weighed the foregoing particulars, will, it is believed, see the justice of most of the following conclusions.

1. That at the time (1865) when Mr. Volkner met with his sad fate, we had been at war with the natives for several years, during which they had suffered greatly.
2. That it is well known that the natives had been repeatedly told, both by word of mouth and by letter, by several Europeans high in office (both spiritual and civil) and their friends,—some of whom, as the present Premier the Hon. Mr. Fox, and Dr. Featherston, and Mr. Fitzherbert the present Superintendent of Wellington, are still connected with the Government of the colony,—that the said war was "an unjust and unholy war" on the part of the Government, and that it was shamefully forced upon the natives.
3. That our own repeated killing of their women and children (no doubt, unintentionally), and other barbarities always more or less incidental in long and heavy war, aroused the worst feelings of the natives against us and set them on barbarous reprisals; which, though in their own old mode of warfare was quite common to them, they in all their former wars with us had never initiated.
4. That Opotiki where Mr. Volkner resided was, for many sad reasons, in a very excitable state at the time of the Hauhau party reaching it, and of his being killed.
5. That the fanatical Hauhau party under Patara, sent forth from taranaki, where the war began, by Te Ua the Hauhau prophet, visited Opotiki and the East Coast in order to induce the tribes to join the West Coast natives in the war.
6. That on the arrival of the Hauhau party at Opotiki and their being joined by the inhabitants of that place, their acts and deeds were, under all the exciting circumstances, those of a politico-fanatical *emeute*, or mad fanatical tumultuous mob.

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256 WC: This letter will also be appended (at request) to this pamphlet.

7. That all history tells us of such sad times and scenes often and every where occurring.
8. That at such times everything is for the time beyond all reasonable control,—even in the oldest and most Christian countries and cities.
9. That maddening acts of zeal committed at such, times, are seldom severely [18] revenged or, if revenged, done immediately on the spot; never after a period of years.
10. That Mr. Volkner, much as we deplore his death, was killed at that time by the frantic mob, as a spy or “betrayer”:—much as in the American war General Washington hung the British Officer Major André. (Perhaps, of the two cases, all things calmly considered, General Washington’s act was the worst.)
11. That many other European settlers, men, women, and children, at least as equally innocent of wrong us Mr. Volkner, were also from time to time killed by the natives.
12. That the murderers of these were by proclamation specially excepted from pardon.
13. That the murderers were subsequently pardoned without trial, although coroners’ juries had returned verdicts of wilful murder against many of them.
14. That the chief Te Pehi, who by proclamation had been also specially excepted from pardon, for his gross perjury and for treacherously attacking the troops of the Queen, was also pardoned without trial.
15. That three natives, names known and given, who had in the same year murdered the Governor’s messenger, and for whose apprehension £1000 had been offered,—have not been prosecuted, and are allowed to go at large.
16. That the Hauhau prophet Te Ua, and Patara the leader of the Hauhau party who killed in conjunction with the Opotiki natives Mr. Volkner, and who were the originators and directors of all the subsequent mischief were also pardoned.
17. That the “loyal, native” chiefs, including the members of Parliament, say, (1.) that inasmuch as the Government have pardoned the great Haihau leaders in wrong-doing, the Government cannot now refuse to pardon the subordinate ones; and (2.) that the Government have already exacted a dreadful revenge at Opotiki for the killing of Mr. Volkner, killing, in all, more than 50 Maoris; and that it is unjust to shed more blood on account of Mr. Volkner’s death, after, too, such a lapse of years.
18. That it is believed that the doing so would be certainly secretly charged against the Church, or against a section thereof.
19. That the “loyal natives” are, in many parts of the island (more or less, rightly or wrongly,) dissatisfied with the Government.
20. That it should be the steady aim of the Government to endeavour to lessen that spirit of dissatisfaction now so prevalent among the “loyal natives,”—and this not by promises, or flattery, or money, but by prompt and cheerful acts of justice.
21. That care should be taken not to increase the spirit of dissatisfaction, by doing that towards one of their nation which in their opinion is eminently unjust.
22. That Christian justice (which we have endeavoured to teach the natives) is ever tempered with mercy.
23. That the Imperial Government dislikes our repeated shedding of Maori blood, especially for long past political offences; and that our Government has been informed, that “it has given the Imperial Government great pleasure to hear, that” (out of thirty Maori prisoners in one batch condemned to death) “there were no executions.”
24. That the sad death of Mr. Volkner by the hands of the infuriated political religious Hauhau natives in the *emueté* at Opotiki in March, 1865 (nearly 7 years ago) *has been fully avenged, and that IN THE WAY THE GOVERNOR HIMSELF CHOSE.*
25. That our Laws do not admit of double punishment for one crime.

*Fiat Justitia! Let justice be done.*

There’s a heart that leaps, with a burning glow,  
The wronged an the weak to defend,  
And strikes *as soon for a trampled foe,*  
As it does for a soul-bound friend.—  
‘Tis a rich rough gem, deny it who can;  
And this is the heart of an Englishman.”

I am, &c.,  
W. COLENSO.  
Napier, Dec, 9, 1871. [19]

## APPENDIX.

### I.

**A letter to the Editor of the “Hawke’s Bay Herald,” on the kind of Policy necessary to be shewn towards the Maoris.**

(Reprinted from the “Hawke’s Bay Herald” of April 9, 1869.)

A word in season.”—“A time to speak.”

“Can ye not discern the signs of the times?”

Sir,—In the HERALD of this day your article concludes with these words: “All that is wanted is CONFIDENCE, the want of which shuts out capital and labour, and impairs the energies of all.” These are true words, and to them I heartily assent. But how is this confidence to be brought about? First, we must have *peace*; a true, substantial, firm, and lasting peace; from this will naturally spring confidence, and mark, *from this only*. To this end let us all (Governor, Government, and people) be determined to do two things: 1—To do justice; 2—To acknowledge error.

1. To do justice—prompt and quick, even and fair, commonsense, not tedious, legal, justice. “Do ye to others as ye would they should do to you” if you were in their place.

2. To acknowledge error, frankly and fully, wherever and whenever such has unfortunately been done; even to the retracing of our steps if needful and possible. (Let us not think too highly of ourselves as the “superior,” unerring race, adorned with a thousand highflown superlatives of our own inventing! Let us consider the fable of the man sitting astride on a lion, and the lion’s truthful remark. Let us endeavour to consider our political conduct in the light of

God's truth,—to which scrutinising light it will have to be submitted.)

In order to this:—

I. Let the war be immediately and everywhere stopped.

II. Let a truce be proclaimed.

III. Let an accredited messenger be sent from the Governor to the Maori King Tawhiao (not as King, but, as the acknowledged head of many great tribes), to ask his aid towards making peace; and from him to the various Hauhau leaders; and a similar messenger to the Chiefs of the principal friendly Maori tribes. The basis of such peace to be:—1. A general amnesty. 2. The return of all (nominally) confiscated lands, subject to certain conditions; such as, on the one side, all useful surveys and substantial improvements to be repaid; on the other, certain spots which it is necessary should be ceded to be paid for, 3. Common freedom to all religions however (to us) absurd.

IV. Let Peace Commissioners be appointed from both sides, and a place be mutually arranged for their meeting.

V. Let powers be given to them to settle equitably our difficulties, and all great vexed questions.

If this be done, and the British Commissioners be fit and high-minded men—men of comprehensive views, and able to grasp the whole subject,—and if all the terms then and there agreed to be hereafter honestly and promptly carried out,—then, I venture to prophesy, a firm and lasting peace to the Colony of New Zealand; otherwise you will not, cannot have it—at least for a long generation, a long and weary time of bloodshed and misery to both races: and, note well, that such a peace so obtained by conquering or destroying isolated tribes, whenever that may be, *will not be lasting*.

I have long entertained those views; I now openly avow them. I know, in doing so, I shall be assailed by the unthinking, with—

1. What of the murders, atrocities, massacres, and cannibalism?
2. What of the present numerous semi-military bands?
3. What of the expense and loss?
4. What of our British name and reputation?

I reply, to the first question—Who began the war with the “Hauhaus”? Who unjustly treated them—men, women, and children—by illegal wholesale banishment without trial? Who, on those Chatham Island “prisoners” returning to their own lands, in a most creditable, and gallant, and peaceful manner, foolishly and insanely, and without authority, attempted to capture and destroy them! instead of bringing them bread and water, and giving them the right humid and [20] welcoming them back? Who carried on the war against them *in Maori fashion*? Quietly mark this, and note—they have (*for the first time with us*) also carried on the war against us and our Maori allies *in Maori fashion*, which we call murder, massacre, and atrocities, (and so deceive ourselves, as if such were really different from our own “civilised” mode of warfare!) but hitherto we have only begun to know what it is; and note well, I beg, that to the present time the hunted “Hauhaus” have not retaliated upon a single European living quietly on lands fairly purchased or leased. We have already killed something like seven or eight to one; besides inflicting irretrievable loss and evil.

Moreover, fanatical outbreaks and rebellious *emeutes*, everywhere occurring in this world’s sad history, are never rigorously revenged.

To the second question, I reply—The sooner they are disbanded the better for the colony.

To the third—Bear it; it can be borne to restore peace and confidence; it is by far the better, the easier, and the cheaper load.

To the fourth—It will gain additional lustre, which ten years war and eventual success will never bring it. Our Maori foe cannot, will not reflect tauntingly upon it, as we have driven them from all their strongholds, and killed seven or eight to one.

Having said a word to the unthinking, I would also say a word to the really thoughtful among us, including the God-fearing man, and in particular to those of all the Churches who believe in God’s particular Providence and in his stern retribution.

1. Note how successfully this handful of men (“Hauhaus” and “rebels” we call them) have sped; note how they have been hunted; the enormous powers of all kinds brought to bear against them—armies, seven or eight to one—the most improved ordnance and big guns, as well as superior rifles and ammunition; heaps of prayers and invocations, public and private; all the power and strategy of the “superior” race, both “spiritual and carnal,”—and note the result. The different Hauhau leaders, on whose devoted heads in particular high prices have been set, who have bravely stood to the death in every fight amid showers of balls, are all still safe, as if they were invulnerable, while not a few of our best and good men are gone! With death in every form, including starvation, and want and misery, and with little of human aid, they have been long familiar.

2. Note also, I pray—The strange, the utter reversal of what is promised to the God-fearing man, of what has hitherto been his lot—freedom from fear and dread. How comes it that so great a panic everywhere prevails? That instead of a few of the “superior” race overawing a whole band of Maoris (“one putting a thousand to flight,” as was formerly the case), now two Maoris even at a distance, or even a fire on some distant hill, are enough to arouse ugly misgivings, and to cause a whole settlement of stalwart whites to flee as affrighted hares! Everywhere the majority of the settlers are suffering from this foolish affection, even where they are dwelling together in large numbers, and where there has been, and is, no cause whatever for any such fear. How comes all this? Think over those questions quietly, and dare to follow them out. Is ours altogether a righteous cause? Have we the God of battles with us, or have we not?

Now it is just because I believe all this, that I am not sorry that Mr. M’Lean is no longer Government Agent; for while he held that situation and stuck to his old schemes (policy I cannot call them), no real confidence could ever arise, as a firm and lasting peace could not possibly under such schemes ever be restored;—for, at the most, as soon as a so-called peace had been at an enormous expense patched up in one place it would break through in another: it would only be the old, miserable union of “iron end miry clay.” I know very well that some few (if they dare speak their thoughts) would say, “Exterminate.” To this I reply, You can’t do it; and if you could, it would take you years to accomplish. Be warned in time: your (present) friendlies” (mercenaries, on

whom some of you depend so very much) would not allow of it.

Sir, I did hope that the arrival of a son of Her Majesty the Queen among us, the first arrival too of a Prince of the blood royal on these shores, would be advantageously made use of in the way I have above indicated. From my knowledge of the national feelings of the New Zealander, I cannot help stating as my firm belief, that such might have been beneficially done,—and even now it may not be too late.—I am, etc.

WILLIAM COLENZO.

Napier, April 6, 1869. [21]

## II.

### **Extracts from the Speech of the Bishop of Litchfield, Dr. Selwyn, (late Bishop of New Zealand) in his place in the House of Lords.**

In use house of Lords on July 27, the affairs of New Zealand were brought under discussion

Earl GRANVILLE trusted that the difficulties of the Colony, and the irritation in it, would only be temporary, and that *the Colonial Government* would learn the real nature of the responsibility which it had assumed and *adopt those measures of conciliation towards the natives which would put an end to the state of brigandage* rather than war which prevailed in it.

The Bishop of LICHFIELD thought he should be wanting in his duty towards the colonists of New Zealand, as well as towards the natives of that country, if he were not to address a few words to their lordships on the present occasion. He therefore appealed to the Government to lend such assistance as would enable the colonists to put en end to that system of brigandage, in a country in which the wars from time to time had occurred had, he must say, been conducted in a most honorable and chivalrous manner. There were repeated examples of that. Now, however, when the native forces were broken up into small sections, the same results had followed which always ensued in other countries under similar circumstances. The natives, being unable to beat us, had divided themselves into two parties. One of those shut themselves up in the fastnesses of the country, and the other formed murderous detachments, and, taking advantage of their intimate knowledge of the country, carried desolation in all directions.... The New Zealanders were essentially a law-loving people. When he first went out, to that colony the natives paid willing deference to the authority both of the magistrates and missionaries, and it was not until the unfortunate proclamation was made that the natives might sell their land to the Crown only, that the idea of the Queen's sovereignty began to be degraded in the eyes of the people.... The agent of the Government for the purchase of ground has done incalculable injury by going about the country in a very injudicious manner. The proclamation warning the natives that if they fought on what was called the Queen's ground they would become the Queen's enemies, was far from being a fulfilment of the contract originally entered into with them.... Could we listen to the cold-blooded sayings that the natives were perishing fast, that this was a war of extermination, and that it must take its course? If, indeed, the natives were to perish, in God's Providence, from off the face of the earth, let us lift up our prayers for the remnant that is yet left. Let us try to fulfil our original contract. When on one occasion a native chief

gave him some land on which to build a college, he said—"I give you this land as a site for a place of education for the youth of both races, that they may grow up together in the new principles of the faith of Jesus Christ." That, he would undertake to say, was the prevailing feeling throughout the whole of New Zealand. Every New Zealander desired to be a faithful subject of Her Majesty until that unfortunate idea of the Queen's right to the pre-emption of land took the precedence over every other idea, and the whole notion of government was lost in the simple question of, in what manner and by what quickest possible means the property of the soil in New Zealand should be transferred from the natives to the Crown. Their great mistake in New Zealand had been their asserting from the beginning a sovereignty over a country which they could not govern. They had repeated all the errors committed in Ireland centuries ago, and had punished crime by the confiscation of land. Large tracts had been taken from the natives, and so-called military settlers were placed in them to defend the district. On one occasion he knew that a dealer came to these settlements and bought up the land of those supposed defenders of the country, who went away leaving the place undefended, and then a number of peaceful settlers came instead of those military men and scattered themselves over the district, and although they were exposed to every kind of danger, they were never injured because they were living in the King's country. In other parts, indeed, where peculiarly exasperating circumstances had occurred the case had been different, The men who had done all the mischief on the east coast and at Poverty Bay were men who had been carried off as prisoners to the Chatham Islands [and that without any trial, or investigation whatsoever, W.C.] where they were told that if they conducted themselves well at the end of two years they would be set at liberty. There they behaved in the most exemplary [22] manner, but at the expiration of the two years they were informed that they were not to be set at liberty, whereupon a look of despair came over them, as if every hope they had of life were cut off. They had been placed on lonely and remote islands, they had looked forward to the day of their emancipation, and with that view they had behaved exceedingly well. But when they saw no hope left to them, was it surprising that they took matters into their own hands and escaped? Those men went back into their own country, where they were followed up by a military force, driven into the woods, their places stormed, and their houses burnt. The most unwise thing of all was that, in spite of warning, the military officers who had followed up those escaped prisoners went and settled down on the land which had just been taken from them. The New Zealanders would not be like the Scotch, the Irish, or the Welsh, if under such circumstances they had not resisted these excursions. He trusted that none of their lordships would believe that the New Zealanders were a nation of murderers. There were, no doubt, a few murderers among them at the present moment under the force of circumstances, but there was not one cannibal, unless it was under similar circumstances to those which led French women during the frenzy of the revolution to lap the blood of persons who had been decapitated by the guillotine. When maddened by the influence of some fanatic, some excess of that kind might, perhaps, be committed by a native New Zealander, but as to cannibalism in the real sense of the term, which was sometimes gravely charged against them, and at other times, he grieved to say, alleged against them in order merely to point a jest, such a thing had entirely ceased since the colony was established.... he was convinced that the

colonists, instead of looking to some other power for the protection which might be denied them by England, would far rather cling to this country, as they had ever yet clung to it, as their own mother, their own friend, and their own protector, but not to enable them to do acts of injustice towards the natives. Such acts, he must say, in defence of his own brother settlers, had not been attempted excepting on very rare occasions. The general feeling of the settlers, he could assure their lordships, had been that of friendliness towards the native race. There were a few persons among the settlers, as there were also a few among the New Zealanders, who would at times rush into violence but the great majority of the colonists lived in peace and harmony with their native fellow-subjects, and their good will was in a great degree reciprocated by the natives. [23]

### III.

Translation of a few "Hauhau" Prayers, written by To Kooti with his own hand in his pocket memorandum hook. A little book very much worn with constant usage and long carrying about in his clothes, and more than once repaired by stitching together with fibres of New Zealand Flax.

FAITHFULLY TRANSLATED BY W. COLENZO.

#### 1.

##### *A Prayer used in the Chatham Islands.*

O God, if our hearts arise from the land in which we now dwell as slaves, and repent and pray to Thee and confess our sins in Thy presence, then, O Jehovah, do Thou blot out the sins of Thy own people, who have sinned against Thee. Do not Thou, O God, cause us to be wholly destroyed. Wherefore it is that we glorify Thy Holy Name. Amen.

#### 2.

##### *A Prayer on going to bed.*

O God, look Thou down on me dwelling in misery. Here I am invoking Thy Name from my bed, because Thy Angel has preserved me (during the day), by him have I been magnified. And what, indeed, is my own goodness? Thy Servant is altogether evil: my sins are great, they cannot be counted. Alas, O Lord! succour me, in my wanderings, and in my bed; and I will praise Thy Holy Name from day to day. For this we give glory to Thy Holy Name. Amen.

#### 3.

##### *A Prayer offered in the night while in bed.*

Here is Thy evil Servant lying on his bed, much like a dead man, without thoughts or desires towards my Creator. Alas! while I was thinking of error and confusion, suddenly there came love from my Father in heaven, and then I broke forth into wailings and lamentations for myself, that I had not been mindful of my heavenly Father. But now, O my Deliverer, remember me; drag me out of the net of death, and place Thy Holy Spirit, within me this night. Glory to Thy Holy Name. Amen.

#### 4.

##### *A Prayer on rising from bed.*

O God, here Is Thy Servant awaking on my bed. I now begin to pour forth my prayer; let It reach Thy presence. Let me not be cast forth by Thee, because of my sinning in this night; rather turn favorably unto me, and save my body and my soul, and make me to be [*or to do*] like one of old in the days of Thy Servant David; and that I may tread in Thy footsteps, and diligently seek Thy honour and Thy Glory. O my Fattier, do not forsake me. Come Thou, O Lord, and

succour Thy Servant. Therefore I glorify Thy Holy Name. Amen.

#### 5.

##### *Another Prayer, on rising from bed.*

O Jehovah, O Christ, O Holy Ghost, remember me, now awaking in my bed; for Thou hast watched over me during this past night. O Christ, deliver me from the hand of the devil. Forsake me not throughout this day. O my Lord, turn favorably towards me; draw me up out of the depths; let me be even as Peter, who was taken up by Thee out of the raging sea. Even so, this one now praying. O Lord, take me up from within the net of death. Wherefore I glorify Thy Holy Name. Amen.

#### 6.

##### *A Prayer for deliverance from foes.*

O Jehovah, Thou art the God who deliverest the people repenting, therefore do Thou listen hither this day to the prayer if Thy Servant, concerning our Enemies. Let them be destroyed and turned to flight by Thee. Let their counsels be utterly confounded, and their faces covered with sadness and confusion. And when Thou sendest forth Thy Angel to trample our Enemies to the earth, through Thee also shall all their bones be broken to pieces. Glory to Thy Holy Name. Amen.

## 1873 Letter relative to Maori Lexicon.

*Appendices to the Journals, House of Representatives, G 9.*

### THE MAORI LEXICON,

(LETTER FROM W. COLENZO, ESQ., RELATIVE TO).

Presented to both Houses of the General Assembly by Command of His Excellency.

MR. W. COLENZO to the Hon. the NATIVE MINISTER.

SIR,— Napier, 30th August, 1873.

I have the honor to acknowledge the receipt of your letter of the 15th instant, in which you wish me to make some proposal about the "Lexicon."

Ever since its receipt I have been repeatedly considering how best to do so.

Before, however, I give you my present thoughts about the matter, I would, with permission, call your attention to a very brief outline of a portion of the past concerning it.

When, in the House of Representatives in 1861, I first brought the subject of the "New Zealand Lexicon" forward, I did so much as Sir D. Monro at the same time did the somewhat similar motion respecting the work on the Botany of New Zealand to be edited by Dr. Hooker. Had my motion been carried then, assuredly I should not have undertaken the work, as at that time my hands were quite full (being Provincial Treasurer and Inspector of Schools for this Province, without a clerk), and with every prospect of a long continuance in office. I should have gladly handed over to whoever might have been appointed all my MS. vocabularies, &c., &c., of the language, which had been accumulating for thirty years or more; all I wished for being the preservation of the New Zealand dialect of the great

Polynesian language, which was every day growing less and less.

In June, 1865, the Hon. the Native Minister (Mr. Mantell) wrote to me, requesting me to furnish a plan or prospectus of the said Lexicon. I did so, calling his attention to three main things, viz.,—1. Time; 2. Remuneration; 3. Efficient aid and hearty co-operation (all of which I may remark, had been given to Dr. Hooker in his work). Indeed, in the main matter of efficient aid and assistance from the Government, and from their officials throughout the Colony, I was led to expect very much from the several conversations I had had with Sir George Grey (then Governor) about the work, and from the hearty interest he took in the matter.

In January, 1866, I received the appointment to execute the work, when, on finding so much was left open to me, I immediately wrote to the Hon. the Native Minister (Colonel Russell), sending him a proposal for the better and speedier publication of the same. That proposal, however, was (unfortunately) refused by him: I have always regretted this.

Since then, as you know, much has been said from time to time during several Sessions, in the House of Representatives, concerning the work and myself, in all which I have been more or less charged heavily, as if blame was to be attributed to me. I allow that the work is in a most unsatisfactory state, not only to the house, to the public, and to the Government, but most especially to myself; but I cannot allow that I am or have been to blame in the matter, for I believe that, whenever a strict impartial inquiry into the whole affair shall be instituted, I shall be found to have done very much more than my intended share in the work; but all this has reference to the past.

And now with reference to any “proposal,” meaning thereby something both satisfactory and practicable, I am wholly at a loss; there are three things here to be considered,—

1. There is the present state of the Work itself:—From 1870 (when the Government ceased to pay me) I have been only working at it during spare time, yet always heartily. A large quantity of matter, however, has been accumulated through my own unaided exertions, which has been all put into its place, in a kind of rough order, in the MS.; but not a single page of it is ready for the press; it is moreover merely roughly and quickly written with abbreviations (of course intended for my own copying), and the whole has to be thoroughly and closely considered and rewritten. Were my MS. clearly written, so as to be easily read and copied by a copying clerk, my “proposal” now would be, that the Government take over the MS. as it is forthwith; but as it is, this, I fear, would be of little if any service.

2. *The present state of my health*—Getting more and more infirm with advancing years; settled chronic rheumatism, and a contraction of thumb and forefinger of my right hand, caused in 1865 (and, as I believe, through too closely sticking to this work), prevents my writing long continuously.

3. *My present engagements, viz.:—*Paid public duties. I am now Inspector of Schools for this Province; this office takes up quite half of my available (or sound) time; and those duties are (generally) of such a nature as to become a necessary relaxation to me.

From the foregoing, it will be seen that I cannot possibly have any very satisfactory or practicable “proposal” to make; and I shrink from making any which I could not fulfil.

Again, it must not be forgotten that the work is still incomplete; from its very nature it is different in this respect from almost any other. Words under A (the *first* letter) cannot possibly be any farther advanced towards completion than those under Z (the *last* letter), perhaps, indeed, not so far advanced; seeing that the last letter, having fewer under it, might be the sooner filled up.

Therefore, under all the Circumstances, the only feasible proposal that I can at present make, is the following, viz.,—to proceed at once to do all that I can to get a portion of the work, though incomplete, ready for the press (say, from A onwards); the first parcel to be forwarded to you in January next, the same to be (if possible) followed by other portions throughout the summer; by so doing, a small part of the work would be ready for members by their next session. Meanwhile (and *after* the prorogation of the General Assembly) I will correspond through you with the Government Printer as to the manner, &c., of its being printed. I should be very sorry for it to be printed without my revision of the sheets; that, too, being work to which I have been accustomed.

I will thank you to let me know at your early convenience whether you agree to the above-mentioned proposal.

I have, &c.,  
WM. COLENSO.

The Hon. the Native Minister, Wellington.

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## 1875 Compilation of Maori Lexicon by Mr. Colenso (letters relative to).

*Appendices to the Journals, House of Representatives, G11.*

No. 1.

Mr. COLENSO to the Hon. the NATIVE MINISTER.

SIR,— Napier, 20th July, 1875

In sending you herewith, and in accordance with your request, a few specimen pages by way of prospectus, copied roughly from my MSS. of the Maori-English, and English-Maori Lexicon, on which I have been engaged for some time, I have also the honor to submit a brief *résumé* of the whole affair from its commencement, accompanied with certain proposals of my own respecting the work. I do this for three reasons: 1 Because there has been so much erroneously said about it, both in the House of Representatives and in the public prints of the day. 2. For the better information of the General Assembly. And. 3. For the early final determination of the matter.

In 1861 I first brought a motion before the house of Representatives respecting “A Standard Library Dictionary or Lexicon of the New Zealand Language.” I did so much in the same way as Sir David Monro did his somewhat similar motion respecting the Hand Book of the Botany of New Zealand. My motion was favourably received, and the resolution the House came to was.—That it is highly desirable, as soon as the finances of the colony will permit, that a sum of money be devoted for the purpose of commencing a Standard Library Dictionary or Lexicon of the Maori Language.

In 1862, finding that the finances of the colony were in a flourishing state, I again brought it before the House, and the reply on the part of the Government was (Sir Dillon Bell being then the Native Minister) that it should be commenced forthwith.

In 1863, finding that nothing had been done during the recess (possibly owing to the serious war), I again brought the matter to the notice of the Government, writing at the close of the Session to the Hon. the Colonial Secretary about it.

In 1804 I did the same, besides during these two years having had several conversations with the then Governor Sir G. Grey concerning the work, who always warmly supported it.

In 1865 I received an official letter from the Native Minister (the Hon. Mr. Mantell) concerning it, asking me to furnish the Government with a plan or prospectus of the said work, to which I promptly replied. And as much of what followed is necessarily grounded on these two letters, I will, with permission, make extracts from them here

“Native Secretary’s Office. 21st June, 1865

“I am directed by Mr. Mantell to request that you will be good enough to forward to him a plan or prospectus of the Maori Lexicon you propose to prepare, together with an estimate of the time likely to be required for its completion, and of the expense which it will entail. The Government will then submit to the General Assembly a specific vote for the purpose, in fulfilment of the resolution of the House of Representatives of the 13th of August, 1861.—W.  
ROLLESTON.”

In my reply I said:—

“1. The plan or prospectus is simply a Maori and English-Maori Lexicon, to contain every known word in the Maori tongue, with clear unquestionable examples of pure Maori usage, and with copious references, as far as known, to the principal cognate Polynesian dialects. To be completed in, say, two volumes—the Maori or first volume, to be first finished.

“2. The time required for the whole work, to do it satisfactorily, cannot well be estimated at less than seven years; the first volume alone might be got ready at the end of five years.

“3. The maximum total expense, during five or seven years, may be reckoned at £300 per annum. As however the pay to the Editor for his whole time will be but small, it would be only fair to ask of the General Assembly some supplemental vote on the full, entire, and satisfactory completion of the whole work.

“In addition to the foregoing, very efficient aid is further to be hoped for from the Government:—

1. Through the Government obtaining from several Polynesian Islands copies of every vocabulary or local published work. 2. Through their issuing a circular to their officers in Maori districts, inviting their kind co-operation in the work, and in obtaining from them any MSS., notes of language, songs, sentences, words, &c. And, 3. Through their granting free postal communication between the Editor and the Government Officers, Maoris and others, throughout the Colony, on all inquiries respecting the Maori language.

“It is deemed advisable that the preparation of the Lexicon, being a purely literary work, should not be placed under the control of any department. It might be undertaken upon the order of the General Assembly, or it might, if required, be placed under the formal supervision of the Speaker, or the Clerk of the House of Representatives.

In the session of 1865 the question was again brought before the House (this time by the Hon. Mr. Mantell) and the House again decided,—“That it is highly desirable that the Maori-English Lexicon, as proposed and affirmed by the House on the 13<sup>th</sup> August, 1861, and subsequently agreed to by the Government on 20<sup>th</sup> August, 1862, be forthwith commenced.” And in December of that year I received the official appointment from the Government to proceed with it.

In the following month (January) I wrote to the Native Minister (the Hon. Colonel Russell) respecting the better and more speedy way of getting the said work out, saying that I thought it would be preferable to publish it in parts, the first part to be ready in, say, three years. To my letter the Hon. the Native Minister replied, saying “that he would not interfere in any degree with the action which had been already taken by his predecessors in office as regards the time and manner of carrying out the work.”

I had also requested him officially to ask for the official and other aid I had been to expect I would receive: this he declined, but requested me to write a circular addressed to him, and he would get it published if approved of, in the *Gazette*. I did so; and it was published, with a cold and brief official remark prefixed.

I now commenced my arduous task with all my heart. I gave it the whole of my time. Many days have I shut myself up from twelve to fourteen and even to sixteen hours a day. And here I may be permitted to mention:—1. Tat had this work been commenced when I first brought it before the House of Representatives in 1861 or in 1862, it would not, it could not, have been undertaken by me; because at that time, not only had I no notion, no desire, for it, but my hands were already full; for I was then filling the offices of Provincial Treasurer and Inspector of Schools of the Province of Hawke’s Bay (without a clerk), besides being a member of the House of Representatives and of the Provincial and Executive Councils of my own province. My only wish was to see the noble New Zealand dialect of the great Polynesian language, preserved, and I should have gladly handed over my numerous MSS. of nearly thirty years’ collection to whomsoever the Government might appoint to do the work. 2. I (who had always from the creation of our Province of Hawke’s Bay been a member of its Provincial Council) immediately placed a legal bar in the hands of the Returning Officer, to hinder my being again nominated. 3. I threw up entirely my favourite scientific pursuits (botany, &c.), through which I fear I displeased not a few of my old scientific friends, with whom I had always been in close and constant hearty correspondence, among whom I may mention, in England, Dr. Hooker and others, and, in New Zealand, Sir G. Grey. Drs. Hector and Haast, Professor Kirk, &c. Indeed, Sir G. Grey, who was then Governor, not only wished me to continue my botanical researches, but generously offered to equip and supply me fully in every way. 4. I even employed a land agent residing here in Napier to do my little business for me, even to the receiving of small rents, I paying him his commission for so doing. And, 6. I gave up my long-cherished hope of visiting England.

I may also mention here that about this time the late Bishop of Wellington (Dr. Abraham), in calling on me at my house in Napier, and in conversing about the work, in which he took a great interest, said that he had only one thing to remark on in the whole arrangement, and that was that seven years was far too short a period to execute the work as I had planned it.

To return. I went on closely with my work; but, although I wrote many letters, and also sent copies of the circular which had appeared in the *Gazette* to many persons, official and non-official, residing all over the colony, from not one European did I ever receive any answer, save from my lamented friend the late Superintendent of Aucklans, J. Williamson, Esq. Subsequently, however, two European gentlemen filling official situations (S. Locke, Esq. R.M. and Mr. James Grindell) have assisted me: also the present Colonial Secretary, G.S. Cooper, Esq., when at the head of the Native Office in Wellington. Moreover, what those gentlemen did they did both courteously and heartily, and I have great pleasure in recording it.

In 1867, in less than two years after I had commenced the work, and to my very great astonishment, an official inquiry was called for by the house; and the member for Clive, Mr. Ormond, was officially appointed to inspect and to report. That gentleman did so; and I have casually learned that his official report, which was, I believe, duly laid before the House, was a favourable one.

In 1868, I invited his Honor Mr. Justice Johnston, during his official visit to Napier, to inspect my MSS. He kindly did so at some length, and expressed himself as much pleased with the work.

Again in 1868 another official inspection was made by the Native Minister (the Non. J.C. Richmond), who spent some time in examining what I had written, and who also strove very hard, both by talking and subsequently by writing, for an alteration of the original terms of agreement. On his return to Wellington he wrote me a long official letter, in which he said "that he recognized the method and clearness of the work, so far as it had proceeded, and that he had no wish to complain of the amount already accomplished," &c., &c.,

At the same time Mr. Richmond forced upon me his official determination (1) that the work must be finished by a certain fixed time (the end of March, 1870); and (2) that no more money should be paid to me after that period, from which date I have received no pay from the Government.

The Hon. Mr. Richmond did, however, in reply to my last letter to him of remonstrance, promise "to lay the same before the House of Representatives;" at the same time adding "that the Government cannot go beyond the offer already made;" but I never heard if such were done, or, if done, that anything resulted therefrom.

From my appointment to this work in 1866 down to March, 1870, inclusive, a space of four years and a quarter, I only received from the Government about £980 net, or, say, about £230 per annum.

Subsequently, in 1870, you yourself, Sir, also examined my MSS., and expressed yourself as pleased with the work; and I could not help thinking, after you had left me, that had you been the Native Minister in 1866, when I first corresponded with the gentleman holding that office, things might have gone on differently.

In 1869–70 my right hand (fore finger and thumb) became so bad, half-contracted, but without pain, save during continuous writing, that I could no longer write legibly, often could not even sign my name. And this, as I firmly believe, was wholly occasioned by my severe and continual writing, having been goaded on to desperation almost through the remarks made in the House, the bad faith of the Government, and Mr. Richmond's new arrangements, and consequently working day and night far beyond my powers, as the time he had fixed was fast approaching.

In November 1870, after I had undergone a severe surgical operation on my right-hand forefinger, I had two surgeons (Messrs Hitchens and Spencer) to examine my hand, and to report thereupon to the Government. From that time to the present, I write without using my thumb and forefinger, consequently not so quickly and often not so legibly as formerly.

In 1870, at the General Provincial election here in May (all pay to me having ceased), I again allowed myself to be nominated and entered the Provincial Council, and I again took a paid office as Inspector of Schools.

Since then, I have from time to time informed you, whenever you have inquired, I have only been working at the Lexicon "during spare times, but always heartily."

On a calm, impartial view of the whole, it will, I believe, be found—1. With reference to myself: —That the Government broke faith with me in the three great matters of (1) time to be allowed for the work; (2) pay; and (3) efficient aid towards it (this aid, too, which was always in all my letters most carefully brought prominently to the notice of the Government, a was indeed quite a *sine qua non* with me, was exactly similar to that aid which was so readily afforded by us—myself and others—to Dr. Hooker, at that very time too, in his preparing his work on the Botany of New Zealand, which that gentleman has also fully acknowledged.

2. With reference to the work—(1.) Had my original proposal to Hon. Mr. Mantell been honourably carried out in its entirety, the work would have been long ago finished. (2.) Had my well-considered and practical proposal made to Hon. Colonel Russell been accepted by him, the first part of the work would certainly long ago have been published, and very likely the remainder, and the House and the colony as I take it, satisfied. (3.) Had my notice in the *Gazette* been properly brought before the Government officers and warmly supported, effectual aid must have resulted therefrom. (4.) Had even my last overture to the Hon. Mr. Richmond been allowed and supported, good would have resulted.

I regret to say that I have found it an up-hill work with the Government from the very beginning. As if my appointment was a sinecure, or money thrown away, or at all events as if I were too well paid! As things have turned out, it has been my great misfortune ever to have had anything to do with this work.

Does any one that knows me (and I believe there are many even now, at this modern date, comparatively, in the House who do)—does any one suppose that I, with my active habits and diligent application to business, could not much more easily earn a greater salary than that which I received from the Government during four years—viz., £230 per annum.

Sir, I have had for years to hear and put up with repeated heavy charges concerning this work, I have borne with them, ever believing that my countrymen and the country would some day do a poor scholar justice.

You, yourself, Sir, have more than once in the House, when speaking on this subject, said “the Government had always been willing to offer every facility for the completion of the work.” But did the Government, or would the Government, from March 1870, ever proffer a farthing of pay? And could the Government reasonably expect me to give my whole time, year after year, for nothing; especially too, after they had repeatedly broken faith with me? To say nothing of the early official inspection made, as if (I after all the high and important public duties I have been from time to time called to perform during more than forty years of active life in New Zealand)—as if I were not to be trusted.

For it must not be lost sight of that the only agreement ever made between us was in the terms contained in my letter of reply of July 5, 1865, to the Hon. Mr. Mantell’s official inquiry; which indeed was fully conceded by his successor in office, and sustained by successive votes of the House of Representatives in 1866 and 1867, when £300 per annum was repeatedly voted.

The House has often heard from the Government, from 1869 downwards, that the magnificent “sum of £100 was still to be paid me on completion of the work;” but the Government forgot to inform the House that the original agreement upon which the work was undertaken was for £300 per annum (which sum indeed was annually voted and paid, until in 1868, the Hon. Mr. Richmond, then Native Minister, took upon himself to set the original agreement aside), together with an additional supplemental vote of remuneration to the Editor on the completion of the work.

Had the Government supported me fairly and heartily, and had even the whole outlay originally stated—seven years at £300 = £2,100—been expended, that sum, and more, would have been recouped by them before this time.

And now Sir, in conclusion, allow me to bring before you, and the honourable the House of Representatives, the following four proposals concerning this work. I beg you to note them and their sequence carefully: and I hope that one of them (or something similar, yet better, it may be) will be fully and finally agreed to and determined by you. Time was when my first proposal of these four would not have been thought of or listened to by me; but I am getting old now (after upwards of forty years of active life in New Zealand, now *sum qualis eram*), and I feel it. This is, allow me respectfully to say, my last letter to you concerning this work with which I was entrusted. For, as I told you when here, “the flame is now burning low in the lamp;” this, therefore, is the last appeal of the Sybil to Tarquin. It remains with you, Sir, to decide both for us and for posterity.

#### *Proposals.*

1. That I forthwith hand over all my Maori MSS. to the Government; and on doing so receive £200—viz., £100 as last stipulated remaining due on the work, and £100 long overdue for writing certain elementary English-Maori books (“Willie’s First English Book”), &c., as per Dr. Shortland’s official letter to me of 1864; or,—
2. That I pay the Government the sum of £500 in two bills of £250 each—one at three and one at six months, without interest, being about half of all moneys (net) received by me

from them on account of this work; and that I obtain from them a full acquittance; premising that in this case the whole MSS. in their entirety, and all future profits arising therefrom, to become entirely my own. Of course, should this proposal be selected, then I shall endeavour to proceed with the work with the full intention of making arrangements for the publishing of the same by, or selling the same to, some first-rate London publisher, or some Foreign Government, but in no case to the Colonial Government; or,—

3. That I be directed to get on as fast as possible with the work; to do this, however, will be required in conformity with original agreement;—
  1. Salary for myself, as originally granted, £300 per annum until finished—say three, or it may be four years. (I am now receiving £250 per annum as Inspector of Schools, which office I must either resign, or, if allowed, find a substitute for.)
  2. All possible aid from Government officers and others, especially from Maori Chiefs, and Maori officers in receipt of Government pay; the Government themselves acting heartily, and seeking it for the public good.
  3. One of the Armed Constabulary to act as clerk, as offered by you.
  4. The privilege of franking and receiving letters and packets for the work free of postage to be again granted to me. This was done at the beginning, but in less than a year it was withdrawn.
  4. On the satisfactory completion of the work, a supplemental vote to be asked of the General Assembly; or,—
  4. That I merely go on quietly and leisurely with the work—as I have been doing for the last five years—trusting to the House for fair remuneration should I live to finish it in this way, which is doubtful; provided also that if I die before I finish it, my executors are to hand over all the Maori MSS. of the work to the Government, and receive from them the (poor) stipulated sum of £100, and whatever amount besides the General Assembly may be pleased to add thereto.

I have, &c.,

W. COLENSO.

The Hon. the Native Minister, Sir Donald McLean, K.C.M.G., &c., Wellington.

No. 2.

Mr. COLENSO to the Hon. the NATIVE MINISTER.

SIR,

Napier, 21<sup>st</sup> July, 1875.

In accordance with your wish when last here, and my promise, I have the honor to send by this mail, in a separate packet, thirty-eight pages of MS. copied roughly from my Maori-English Lexicon, to form a few specimen pages of the said work; and I purpose sending you a few more by the next steamer hence.

By forwarding these now, your printer can have them the earlier in his hands, and the rest will be in time for him. I have not read these since I wrote them (only just concluding the last pages) not having had time to do so, and this I regret.

I also send you in the same packet six parts of the English-Maori portion of the work—viz., the first three and the last three, equal to six. There are nineteen such parts written in all, and from the last one you will know how far this portion of the work is advanced. This is clean MS., and is all but ready for the press, requiring only a slight revision; but I do not suppose you will get any of these printed; they are not sent for that purpose, but merely that the House may see some of the MS. of this portion of the said work. If I have time, I will copy a small portion from what I have left—to be printed, to accompany the other pages.

I trust that every care will be taken of these six parts, as I have no rough copy, no duplicate.

I may also add that I have made this part of the work rather more full and particular than is usually done, in consequence of a remark made to me by the late Superintendent of Auckland (Mr. Williamson) in which I coincided, that by doing so it would prove of great use to Maoris desirous of learning English.

I have, &c.,  
W. COLENO.

The Hon. Sir D. McLean, K.C.M.G., Native Minister,  
Wellington.

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### 1877 On the day in which Captain Cook took formal possession of New Zealand.

*Transactions of the New Zealand Institute* 10: 99-108.

[Read before the Hawke Bay Philosophical Institute,  
13th August, 1877.]

FOR several years I have been of opinion that all our colonial almanacs are in error on this subject. They all give the 15th of November, 1769, as the day in which Cook took possession of New Zealand in the name of the King. This they have always done, and in this they have been followed by other publications, both Colonial and British, when speaking of the circumstance. My object in bringing this matter in a few words plainly before you is to initiate an enquiry, which, whether I am right or wrong, will serve to settle the question. And I have good reasons for believing that what I shall state will cause you all to agree that, at least, there is considerable doubt about it. [100]

The almanac makers and others, as I have said, give the 15th November, 1769, as the day, and Mercury Bay as the place in which this act was done, and, to a certain extent, they are right, viz., that on that day, according to what is related in Dr. Hawkesworth's narrative of Cook's first voyage, such a circumstance took place. The words are as follows:—

"Before we left the bay, we cut upon one of the trees near the watering-place the ship's name and that of the commander, with the date of the year and the month when we were there; and after displaying the English colours, I

took a formal possession of it in the name of His Britannic Majesty King George the Third."<sup>257</sup>

And here I may remark, in passing, that this sentence stands alone as a short paragraph added on at the end of the chapter; after we had been told of their having left the bay, and of their having been obliged through contrary winds to change their course at sea.

Dr. Hawkesworth, who was employed to edit this first voyage of Cook, says in his introduction that he was largely indebted to Mr. (afterwards Sir Joseph) Banks, for much of his scientific, popular, and interesting information; indeed, as it would appear, to a far greater extent than to Capt. Cook himself, from whom, however, were derived "the particular account of the nautical incidents of the voyage, the figure and extent of the countries, with the bearings, harbours, soundings, the latitudes, longitudes, and variation of the compass, and such other particulars as lay in his department." And, in still plainer language, the editor further says: "As the materials furnished by Mr. Banks were so interesting and copious, there arose an objection against writing an account of this voyage in the person of the commander, the descriptions and observations of Mr. Banks would be absorbed without any distinction in a general narrative given under another name: but this objection he generously overruled, and it therefore became necessary to give some account of the obligations which he has laid upon the public and myself in this place."

I quote this rather fully, because, as I think, it will partly serve to show how the error (if an error) came about. For it must not be forgotten that Captain Cook did *not* himself write his *first* voyage as we have it printed and published; neither was he in England during the time of publication, and consequently knew nothing whatever of it until three or four years afterwards.

Having said so much by way of introduction, I shall now give you my reasons for supposing an error to exist. I propose, therefore, to consider:

- (1.) Cook's usual custom in taking possession of any newly-discovered country. [101]
- (2.) The length of time he was in New Zealand before the day in question.
- (3.) What has also been published respecting Cook's taking possession of New Zealand by a fellow-voyager and witness of the transaction.
- (4.) What may possibly have been the real meaning of the paragraph quoted.

(First.) Cook's usual custom in taking possession of any newly-discovered country.

This is clearly shown, I think, from what took place but a few months before, namely, on the 20th July. He says:—"We now made sail from the island of Huahine for the island of Ulietea, distant seven or eight leagues, and when the day broke the next morning we stood in for the shore, and anchored in twenty-two fathoms. ... We determined to go on shore without delay. ... I landed in company with Mr. Banks, Dr. Solander, and the other gentlemen, Tupia being also of the party. He introduced us (to the natives) by

repeating the ceremonies which he had performed at Huahine, after which I hoisted an English jack and took possession of this and of the three neighbouring islands, Huahine, Otaha, and Bolabola, which were all in sight, in the name of His Britannic Majesty." Cook remained here at anchor, "trading with the natives and examining the products and curiosities of the country," four or five days.

(Second). The length of time he was in New Zealand before the day in question (November 15th).

Cook, as is well known, first saw New Zealand on the 6th of October, and landed on its shores on the evening of Sunday, the 8th, on which occasion a Maori was unfortunately killed. On the next morning Cook landed again in three boats with a large party, and spent some time on shore, when, unhappily, several Maoris were killed, as well as some others on the sea when returning to the ship. And on the following day Cook and others with him again landed, and spent some time on shore shooting ducks and collecting plants. After this Cook sailed southwards, coasting close in shore, round Table Cape, Portland Island, Long Point, Wairoa, Tangoio, Ahuriri, and Cape Kidnappers, but did not land, although (as he says) they were about to do so (near our Petane). After another unhappy affair near Cape Kidnappers, Cook sailed south as far as Cape Turnagain, and then returning north anchored on the 20th in a small bay north of Tolago Bay (probably Anaura), where they first watered in New Zealand. In the evening of this day Cook being pleased with the people again went on shore, and remained here and at the adjoining bay of Tolago (to which he had removed on the 22nd) until the 30th, when he sailed to the north. During nearly the whole of this time Cook and his companions [102] were mostly on shore, not at all annoyed by the Maoris, who (as he says) "behaved very civilly, showing us everything that we expressed a desire to see;" and enjoying themselves greatly in rambling about, going into the woods, seeing what was to be seen, and in making extensive botanical and other collections, having also with him on shore nearly the whole strength of his ship, including the chief officers, the scientific gentlemen, and the marines. He says (after leaving Tegadoo, or Anaura bay):—"In the afternoon of the 23rd, as soon as the ship was moored, I went on shore to examine the watering-place, accompanied by Mr. Banks and Dr. Solander; the boat landed in the cove without the least surf; the water was excellent and conveniently situated; there was plenty of wood close to high-water mark; and the disposition of the people was in every respect such as we could wish. ... On the 24th, early in the morning, I sent Lieutenant Gore on shore to superintend the cutting of wood and filling of water, with a sufficient number of men for both purposes, and all the marines as a guard. After breakfast I went on shore myself, and continued there the whole day. Mr. Banks and Dr. Solander also went on shore to gather plants, and in their walks saw several things worthy of notice," etc., etc.

And here I would remark (1), that we know, from Cook's own words, the high expectations all on board of his ship had on their first seeing this new land; which, no doubt, was greatly increased during their slow approach of from two to three days to their first anchorage: Cook says, "The land became the subject of much eager conversation; but the general opinion seemed to be that we had found the *Terra Australis Incognita*." (2). That at this time (as a matter of course) Captain Cook did not know how far the land he had discovered extended to the north, neither was he sure (after

the experience he had had of its natives and of its coast) that he should ever land again; or, if he should, that he could possibly have a better opportunity than he had here, during his ten days' stay at Anaura and Tolago Bays. Here then, if *he had not already done so*, would have been the place and the fitting opportunity for him to have taken possession of his newly-discovered country.

Leaving Tolago Bay on the 30th October, Captain Cook coasted north until the 4th November, when he anchored at Mercury Bay. Here he remained from ten to eleven days, spending, with his party, much of their time on shore very agreeably. On their leaving the bay, on the 15th, they acted in the manner already quoted and described. So that, if this was really the *first* time of his taking formal possession of the country, he had been no less than thirty-eight days in the New Zealand waters, of which about twenty-four days were spent on land in various places on the east coast; and yet, though nothing hindered, and delay in such matters (as we have seen) was not in keeping with Cook's [103] custom or temper, such an important event was unaccountably delayed for a very long period; and note, further, that in his now leaving Mercury Bay, he was not about to leave the country.

I come now to the positive part of my argument, viz:—

(Third). What has also been published respecting Cook's taking possession of New Zealand by a fellow-voyager and witness of the transaction.

Sir Joseph Banks took with him an experienced draughtsman, named Sydney Parkinson. (Of this young gentleman, who was a member of the Society of Friends, I have something more to say in a brief memoir.) He kept a journal of the proceedings and of the main incidents of the voyage. Unfortunately he died at sea, after leaving Batavia, on the voyage home of the ship, much lamented by all on board. His journal, however, was published in London by his brother, in the same year as the larger work of Cook's First Voyage (1773), and in it Sydney Parkinson, speaking of their landing, etc., in Poverty Bay, says:—"Early on the morning of the 10th, the long-boat, pinnace, and yawl went on shore again, and landed near the river where they had been the night before, and attempted to find a watering-place. Several of the natives came towards them, and, with much entreating, we prevailed on some of them to cross the river, to whom we gave several things which they carried back to their companions on the other side of the river, who seemed to be highly pleased with them, and testified their joy by a war-dance. Appearing to be so pacifically disposed, our company went over to them and were received in a friendly manner. Some of the natives were armed with lances, and others with a kind of stone-truncheon; through the handle of it was a string which they twisted round the hand that held it when they attempted to strike at any person. We would have purchased some of their weapons, but could not prevail on them to part with them on any terms. One of them, however, watched an opportunity and snatched a hanger from us; our people resented the affront by firing upon them and killed three of them on the spot; but the rest, to our surprise, did not appear to be intimidated at the sight of their expiring countrymen, who lay weltering in their blood; nor did they seem to breathe any revenge upon the occasion; attempting only to wrest the hanger out of the man's hand that had been shot, and to take the weapons that belonged to their other two deceased comrades, which having effected, they quietly departed. *After having taken*

*possession of the country in form for the King*, our company embarked and went round the bay in search of water again, and to apprehend, if possible, some of the natives, to gain farther information of them respecting the island. They had not gone far before they saw a canoe; gave chase to it; and when they came up with it, the [104] crew threw stones at them, and were very daring and insolent. Our people had recourse to their arms: the captain, Dr. Solander, and Mr. Banks fired at them and killed and wounded several of them. The natives fought very desperately with their paddles, but were soon overpowered; their canoe was taken, three of them made prisoners and brought on board the ship, and the rest were suffered to escape.”<sup>258</sup>

In connection with this I just copy a few sentences from Cook’s voyage where, in speaking of this landing, Cook (or his editor, Dr. Hawkesworth) says:—“In the morning (October 9th) we saw several of the natives where they had been seen the night before. As I was desirous to establish an intercourse with them I ordered three boats to be manned with seamen and marines, and proceeded towards the shore accompanied by Mr. Banks, Dr. Solander, the other gentlemen, and Tupia. On the marines being landed they marched with a jack carried before them to a little bank about fifty yards from the water-side; here they were drawn up, and I again advanced with Mr. Banks and Dr. Solander; Tupia, Mr. Green, and Mr. Monkhouse being with us.”

Here, then, we have from a qualified and unexceptionable eye-witness, in plain and positive language, that on this day and in this place the newly-discovered country was formally taken possession of for the King; and we also see from Captain Cook’s statement that there were on shore on that occasion the marines and the English colours and the gentlemen of the ship, with a fine long summer’s day before them,—“the foe, too, having retreated.”

I may also mention that Parkinson’s entry in his journal of their taking formal possession of Ulietea, (already quoted from Cook), is made in a similar manner; he says,—“The captain went on shore and took possession of the island for the King; he saw but few inhabitants and scarce any of distinguished rank among them.”

And it should not be forgotten: (1). That Sydney Parkinson was a very moral, truthful, young man, one not likely to have entered anything wrong in his journal; indeed all his entries exhibit carefulness. (2). That Sydney Parkinson died at sea on their voyage to England, so that he could not have purposely altered his journal; and further, (3), that as his journal was published by his brother in London in the same year in which Cook’s first voyage appeared, it cannot be reasonably said or supposed that any addition or alteration thereto was made by the publishers, who were, of course, as utterly ignorant of the materials Dr. Hawkesworth had at command as they were of New Zealand itself! Besides, his brother, the editor, says in his preface,—“I shall leave the works of my brother to speak his talents,”<sup>259</sup> [105] thinking I have paid a proper respect to his memory, though it should be said of his journal (which has been faithfully transcribed)—that its only ornament is truth, and its best recommendation, characteristic of himself, its genuine simplicity.”

I cannot bring myself to believe that Capt. Cook omitted the taking the formal possession of the country on that occasion; seeing, too, that he had with him the marines, and the flag, and the gentlemen of the ship—that the coast was clear of the enemy, who had, as he says, “slowly retreated to the interior after crossing the river, carrying their dead and wounded with them”—that a heavy surf was then settling the shore (which, indeed, prevented their landing again anywhere on that eventful day), and that this was now the second day of their being on shore in the newly-discovered country.

And here I may mention that, just twenty years after, Lieut. Broughton, in H.M. Brig “Chatham,” took possession of the Chatham Islands, in these seas, under somewhat similar circumstances. Lieut. Broughton was under Capt. Vancouver, who in the “Discovery” commanded that expedition, and who had been (as he says in his voyages) four times to New Zealand with Capt. Cook; and as Lieut. Broughton received his directions from Capt. Vancouver, no doubt they were like those formerly issued by his old commander Capt. Cook. Lieut. Broughton says of his first landing at those islands:—“Accompanied by Mr. Johnston the master and one of the mates we proceeded towards the shore in the cutter. ... As the natives approached they made much noise ... and seemed very anxious to receive us on shore; but as all our intreaties were ineffectual in obtaining anything in return for our presents, perceiving many of them to be armed with long spears, and the situation being unfavourable to us in case they should be disposed to treat us with hostility, we did not think it prudent to venture among them. ... But having again reached the shore without any interruption, we displayed the Union flag, turned a turf, and took possession of the island, which I named Chatham Island (in honour of the Earl of Chatham), in the name of His Majesty King George the Third, under the presumption of our being the first discoverers.”<sup>260</sup>

On the whole, I conclude that Sydney Parkinson is right; and that the act of taking formal possession of the country of New Zealand in the name of the King was done on that particular day, viz., the 10th or 9th of October, 1769, at Poverty Bay, and not on the 15th of November following, at Mercury Bay. [106]

At the same time I am aware of the difference in dates as to the day of the month between Parkinson and Captain Cook as edited by Dr. Hawkesworth. Sydney Parkinson gives the 10th of October as the day on which those events occurred; which, in Cook’s Voyage, is as clearly said to have happened on the 9th. And this difference of a day extends throughout nearly the whole of that month in both journals, save that on the 1st they both agree, and then again on the 30th they do so. So that, from the 2nd to the 29th of October inclusive, all the entries of occurrences in Parkinson’s Journal (and they are almost daily made) are one day in advance of the corresponding ones in Captain Cook’s Voyage. And what is still more strange is the further record of this difference as to date in their respective maps of New Zealand. In both maps the ship’s track all around New Zealand is given; in Parkinson’s it is engraved,—“Made the coast October 5th, 1769;”—in Cook’s, “Made the coast October 6th, 1769.” I have endeavoured, by closely comparing the two accounts, to find out where the error is, or how it occurred, but I have failed to do so. On the one hand, in Parkinson’s Journal, we have almost daily entries,

258 WC: Parkinson’s Journal, pp. 87, 88.

259 WC: The journal is profusely illustrated from his drawings.

260 WC: Vancouver’s Voyages, Vol. I., p. 86.

generally made in separate paragraphs; while, on the other hand, in Cook's Voyage, we have the day of the week given as well as the day of the month,—although in a few places several days are thrown together in a single paragraph; and we must not lose sight of this, that the editor, Dr. Hawkesworth, made use of several journals in compiling his narrative.

And now I will offer a few remarks on what may possibly be the real meaning of the ceremony of taking possession at Mercury Bay. First, however, for clearness, again quoting that paragraph:—"Before we left the bay we cut upon one of the trees near the watering-place the ship's name and that of the commander, with the date of the year and the month when we were there, and after displaying the English colours I took a formal possession of it in the name of His Britannic Majesty King George the Third."

May "it" not mean "the bay?" that being the proper antecedent to the pronoun "it;" the *country* is not mentioned. Moreover, it should be noted that Cook does not say in speaking of "the date" which he caused to be cut that such was the date of his discovery of the country; but, on the contrary, that of "the month" of their being "there"—at that bay and watering-place, which we know was not the month in which he discovered the land. Curiously enough Parkinson makes no allusion whatever to this ceremony at Mercury Bay in his journal, although he says a good deal about the place and people, etc., etc.

Further, Capt. Cook may have had several reasons for so doing; two prominent ones I will mention:—1. Capt. Cook observes that he heard [107] continually (both when on shore at the various places where he had landed, and from the very many canoes, which, during his coasting voyage S. and N., came alongside) of a great chief or king named Teratu; this he mentions several times, and seems to have been in great expectation of meeting with him. When nearing Mercury Bay (having passed the island which he named the Mayor and the Court of Aldermen), he says:—"As far as we had yet coasted this country from Cape Turnagain, the people acknowledged one chief whom they called *Teratu*." And again, "It is much to be regretted that we were obliged to leave this country without knowing anything of Teratu but his name. As an Indian monarch, his territory is certainly extensive: he was acknowledged from Cape Kidnappers to the northward and westward as far as the Bay of Plenty, a length of coast upwards of 80 leagues, and we do not yet know how much farther westward his dominions may extend. Possibly the fortified towns which we saw in the Bay of Plenty may be his barrier; especially as at Mercury Bay he was not acknowledged, nor indeed any other single chief."

But after landing in Mercury Bay and obtaining friendly intercourse with the natives residing there, Cook says:—"It was also discovered that the natives of Mercury Bay acknowledged neither Teratu nor any other person as their king; as in this particular they differed from all the people that we had seen upon other parts of the coast, we thought it possible that they might be a set of outlaws in a state of rebellion against Teratu, and in that case they might have no settled habitations or cultivated land in any part of the country."

Hence he might have done it through supposing he was now in another king's territory; but I do not believe this. At the same time it should not be forgotten that Captain Cook came direct to New Zealand from the Society Isles and

other Polynesian islands where he had seen all the inhabitants living under kings; of whose immense power over their people he had also seen a great deal.

2. One of Captain Cook's principal instructions from the British Government was,—to observe the transit of Venus in the South Seas; and for this purpose he was accompanied by Mr. Green, the astronomer. This was a matter eagerly looked forward to by all the leading scientific men of Europe; and Captain Cook in carrying it out was highly fortunate. So again at Mercury Bay, where he stayed some days to observe the transit of Mercury; here he was again "in luck," as the sailors say;—he was in a good situation, with plenty of leisure and skilled assistants, free from annoyance from natives, and, as before, favoured with delightfully fine weather, for we read, "not a cloud intervened during the whole transit!" On the day of their leaving the place he says, "to the bay which we had now [108] left I gave the name of Mercury Bay, on account of the observation which we had made there of the transit of the planet over the sun." What then could have been a more appropriate termination at such a time than to cut the date of their successful scientific achievement "to be left as a memorial of our having visited this place,"<sup>261</sup> (to use his own words recorded on a subsequent occasion), accompanied with a display of the English colours, and to take a formal possession of the bay (or territory) in which they had performed that duty in the name of the King?

At all events we find him doing something very similar some six or seven months later when at Botany Bay. He says:—"During my stay in this harbour I caused the English colours to be displayed on shore every day, and the ship's name and the date of the year to be inscribed upon one of the trees near the watering-place."<sup>262</sup> In this instance, the taking of formal possession of the whole country or island as being the first discoverer, had nothing to do with it; as New Holland (as it was then called) had been discovered and visited long before Captain Cook's time.

Lastly, and in conclusion, I will say, that if what I have herein advanced is considered to be of the least moment towards the defining of an interesting point in our history, it will not, it cannot end here: and that is just what I wanted. Captain Cook's log-books and ship's papers are, no doubt, still in existence, and in safe keeping. By an accurate and close examination of them—particularly of his landing at Poverty Bay—the whole matter will, I have little doubt, be fully determined and for ever settled.

And if it should be asked why it was that I never brought this matter forward before, seeing it is one of public or of national importance, I think I can also satisfactorily answer that, but I reserve my reply.

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261 WC: II., p. 400: (Jan. 30, 1770).

262 WC: III., p. 506.

**1877 *Manibus Parkinsonibus sacrum. A brief Memoir of the First Artist who visited New Zealand; together with several little-known Items of Interest extracted from his Journal.***<sup>263</sup>

*Transactions of the New Zealand Institute* 10: 108-134.

[Read before the Hawke Bay Philosophical Institute, 13<sup>th</sup> August, 1877.]

OUR Institute having been “founded for the advancement of science, literature, and art,” it cannot be considered amiss to bring to your notice the first artist who visited our shores.

I confess I like to do something of this kind. To commemorate those dear fellow-labourers, those true disciples of nature, who preceded us in this [109] country, and who have gone before us! Especially when, as in the present case, the person is almost totally unknown to fame, through several adverse and wholly unforeseen circumstances having operated to rob him of his due; and yet, one who did much, very much, under many great and serious disadvantages, of which, experimentally, we now know but little.

Often indeed have I, when, 30-40 (*et ultra*) years ago, botanizing in the forests of New Zealand, thought on this young artist of whom I am about to write; when I have considered how greatly delighted he must have been when he first gathered and drew those flowers which then pleased me, and which I knew he and his botanical friends and companions had also seen; and further, that, of all the scores of New Zealand plants and flowers (which he had the privilege of first viewing as novelties with an intelligent and loving eye and heart, and so truthfully and beautifully delineating), not one has yet been selected to bear his honoured name! At such times, beautiful and appropriate lines from our English poets—Milton, Gray, and Wordsworth—would rush into my memory, as if evoked from the depths by some potent spell! Wordsworth truly and feelingly says (though many do not understand him)—

“To me, the meanest flower that blows can give  
Thoughts that do often lie too deep for tears.”

It is indeed remarkable (at least in contrast, and worthy of a passing remark), in looking over the names of the hundreds of plants discovered in New Zealand by its first scientific visitors, to find so few bearing the name of the finder or of any individual. Then, and for many years after, the disciples of Linnæus acted up to the Linnæan canons; but now, in our modern day, almost every other newly-discovered (or newly-named) plant or animal among us, is honoured or lowered with the name of its gatherer or lucky owner, or even with that of the child or patron of its describer or namer, no matter whether he or she is or is not a true lover and patron of science!

Dr. Hawkesworth, the editor of Cook’s First Voyage, tells us in his introduction, that Mr. (afterwards Sir Joseph) Banks, in his equipping for a voyage to the South Seas with Captain Cook in the “Endeavour,” was determined to spare no expense in the execution of his plan. He first engaged Dr. Solander, a Swede, and educated under Linnaeus; and he also took with him two draughtsmen—one to delineate

views of figures, the other to paint such subjects of natural history as might offer; together with a secretary and four servants, two of whom were negroes.” The first-mentioned of these “two draughtsmen,” a Mr. Buchan, died early, within a week after their arrival at Tahiti (their first port of call in the Pacific), deeply regretted by all on board; the other, the gentleman whose [110] duty it was to paint subjects of natural history, was Mr. Sydney Parkinson, the subject of this memoir, on whom (through the death of his colleague) the whole work of drawing, delineating, and painting now devolved.

Most, if not all, of us are conversant from boyhood with the many and varied figures in Cook’s voyages; of tattooed chiefs and great personages in extraordinary dresses; of processions and dances; of canoes and implements; and of peculiar and romantic scenery; and these are still being continually republished in various sizes to suit many modern works. Many of these were executed by our Mr. Sydney Parkinson; but these are as nothing when compared with the hundreds of coloured drawings of plants faithfully and beautifully made by the same person, which, though unpublished, are still preserved in the Banksian collection in the British Museum. Dr. Hooker, when preparing his “Botany of New Zealand,” examined those drawings, and says:—“For the earliest account of the plants of these islands we are indebted to two of the most illustrious botanists of their age, and to the voyages of the greatest of modern navigators; for the first and to this day the finest and best illustrated herbarium that has ever been made in the islands by individual exertions, is that of Sir Joseph Banks and Dr. Solander during Captain Cook’s first voyage in 1769. Upwards of 360 species of plants were collected during the five months that were devoted to the exploration of these coasts, at various points between the Bay of Islands and Otago, including the shores of Cook Strait; and the results are admirable, whether we consider the excellence of the specimens, the judgment with which they were selected, the artistic drawings by which they are illustrated, and above all the accurate MS. descriptions and observations that accompany them. That the latter, which include a complete flora of New Zealand as far as then known, systematically arranged, illustrated by 200 copper-plate engravings, and all ready for the press, should have been withheld from publication by its illustrious authors, is (considering the circumstances under which it was prepared) a national loss, and to science a grievous one; since, had it been otherwise, the botany of New Zealand would have been better known fifty years ago than it now is. This herbarium and Ms. form part of the Banksian collection, and are deposited in the British Museum. I feel that I cannot over-estimate the benefit which I have derived from these materials, and it is much to be regretted that they were not duly consulted by my predecessors. The names by which Dr. Solander designated the species have in most cases been replaced by others, often applied with far less judgment; and his descriptions have never been surpassed for fulness, terseness, and accuracy. The total number of drawings of New Zealand plants is about 212, of which 176 are engraved on copper, but the [111] engravings have never been published.”<sup>264</sup> And I have good reasons for adding, that the number of drawings of plants and animals discovered by them in other places during that voyage would far exceed this.

263 *Manibus Parkinsonibus sacrum* = of the hallowed hands of the Parkinsons.

264 WC: “Flora N.Z.,” Vol. I., pp. 2, 3.

Mr. John Edward Gray (late keeper of the Zoological collections in the British Museum) also bears testimony to Mr. Parkinson's abilities in his notes on the Fauna of New Zealand, published in Vol. II. of Dieffenbach's Travels in New Zealand. Mr. Gray says:—“Nothing was known of the natural productions of New Zealand until Captain Cook's first voyage, in which he was accompanied by Mr. (afterwards Sir Joseph) Banks, Dr. Solander, and Mr. Sydney Parkinson, an artist of considerable merit, who was employed by Sir Joseph Banks to draw the specimens of animals and plants which were discovered during the voyage. The drawings made by Sydney Parkinson, together with the manuscript notes of Dr. Solander, are with the Banksian collection of plants in the British Museum, and form part of the very extensive and magnificent collection of natural history drawings belonging to that institution.”<sup>265</sup> To which I will merely add that those drawings are folio size.

Unfortunately this good, able, and active young man died at sea on their voyage home from the South Seas, in January, 1771, about a month after leaving Batavia. His published journal, which is profusely illustrated, contains, among other interesting drawings, a few which are not to be found in Cook's Voyage, one being the Tahitian lad Taiota, the hero of Cape Kidnappers; another that of a New Zealand chief bearing a style of tattooing which has long become extinct, and of which I only saw a few specimens some forty years ago; there are also views of scenery here on our east coast, and a portrait of himself. In his journal he gives the common and Latin names of nearly eighty plants of the Society Islands, with their descriptions and uses; occupying no less than fourteen large 4to. pages; and several copious vocabularies of the various languages which he had noticed during the voyage. Several of his entries made throughout the voyage are not to be found in Cook—that is, as published. A few of the most striking of these being but little known, I shall copy into this paper.

The Journal was published in London in the year 1773, in 4to., (same size as Cook's Voyages and in the same year), entitled, “A Journal of a Voyage to the South Seas, in His Majesty's ship the 'Endeavour,' faithfully transcribed from the papers of the late Sydney Parkinson, draughtsman to Joseph Banks, Esq., on his late expedition with Dr. Solander round the world.” His brother, Stanfield Parkinson, was the editor, who it appears had very great difficulty in obtaining it, with other things, from [112] Mr. Banks, as is fully shown in a long preface of twenty closely-printed pages containing several letters respecting the whole transaction. Subsequently, Mr. Banks and Dr. Hawkesworth also attempted to stop even its publication by an injunction from the Court of Chancery, which, however, was finally dissolved and the work published. From its extreme scarceness (I having sought more than ten years for a copy before I could get one), and from its not having been quoted or referred to by any modern writer on New Zealand—not even mentioned by Dr. Thomson, in his long list of everything on New Zealand—good, bad, and indifferent—I have always been of opinion that it was in a great measure sought to be suppressed by buying it up. Stanfield Parkinson complains bitterly and feelingly of the conduct of both Mr. Banks and Dr. Hawkesworth in the whole affair; among other things, pointing out their meanness and invidiousness in not allowing his deceased brother's name as draughtsman

to be inserted in the plates to Cook's Voyage, while that “of the engraver is pompously displayed.” From the preface already mentioned I extract the following:—

“Sydney Parkinson was the younger son of the late Joel Parkinson of Edinburgh, one of the people commonly called Quakers. Sydney, taking a great delight in drawing flowers, fruits, and other objects of natural history, became soon so proficient in that style of painting as to attract the notice of the most celebrated botanists and connoisseurs in that study. In consequence of this he was, some time after his arrival in London, recommended to Joseph Banks, Esq., whose very numerous collection of numerous and highly-finished drawings of that kind, executed by Sydney Parkinson, is a sufficient testimony both of his talents and application.

“His recommendation being so effectually confirmed by these proofs of ingenuity and industry, Joseph Banks made him the proposal of going in the capacity of botanical draughtsman on the then intended voyage to the South Seas. An insatiable curiosity for such researches prevailed over every consideration of danger that reasonably suggested itself, as the necessary attendant of so long, so perilous, and, to my poor brother, so fatal a voyage! He accordingly accepted Joseph Banks's offer, though by no means an alluring one, if either views of profit, or perhaps even prudence, had influenced his determination. His appointment, for executing drawings of botanical subjects and curious objects of natural history, was settled at £80 per annum. In this capacity, and under this moderate encouragement, Sydney Parkinson undertook to accompany Joseph Banks to the South Seas; making his will before his departure, in which he bequeathed the salary which might be due to him at the time of his decease, to his sister Britannia, and appointed me his residuary legatee.

“I have heard many of the surviving companions of this amiable young [113] man dwell with pleasure on the relation of his singular simplicity of conduct, his sincere regard for truth, his ardent thirst after knowledge, his indefatigable industry to obtain it, and his generous disposition in freely communicating with the most friendly participation to others, that information which none but himself could have obtained. That this is more than probable will appear, on comparing the different manner in which Sydney and his associates passed their time in the most interesting situations. While many others, for want of a more innocent curiosity or amusement, were indulging themselves in sensual gratifications,—we find him gratifying no other passion than that of a laudable curiosity, which enabled him inoffensively to employ his time and escape those snares into which the vicious appetites of some others betrayed them. It doth equal honour to his ingenuousness and ingenuity, to find him protected by his own innocence, securely exercising his pleasing art amidst a savage, ignorant, and hostile people; engaging their attention by the powers of his pencil, disarming them of their native ferocity, and rendering them even serviceable to the great end of the voyage in cheerfully furnishing him with the choicest productions of the soil and climate, which neither force or stratagem might otherwise have procured.

“By such honest arts and mild demeanour he soon acquired the confidence of the inhabitants of most places at which the voyagers went on shore; obtaining thus, as I am well-informed, with remarkable facility, the knowledge of many words in various languages hitherto little, if at all, known in Europe.

265 WC: Dieffenbach's Travels in N.Z., Vol. II., p. 177. Hooker's Hand-book of N.Z. Flora, p. 9.

"These paved the way also to his success in acquiring a choice and rare collection of curiosities, consisting of garments, domestic utensils, rural implements, instruments of war, uncommon shells, and other natural curiosities of considerable value—of so much value, indeed, as even to seduce men of reputed sense, fortune, and character, to attempt, by means unworthy of themselves, to deprive me of what, after the loss sustained in the death of so deserving a brother, one would think none ought to envy me the gain.

....

"Of these curiosities, the shells alone Dr. John Fothergill (a common friend of my late brother and Joseph Banks) had valued at £200; yet neither the shells, nor anything else, hath Joseph Banks to this day returned me. The reasons he gives for the detention are—that I have used him ill; that he hath given me a valuable consideration for them; and, in short, that he will keep them. Of this pretended valuable consideration I am now to speak. On the readiness I showed to oblige Joseph Banks with such of the shells as he might not have in his collection, Dr. Fothergill informed me [114] that Joseph Banks told him he had much reason to be satisfied with the services of Sydney Parkinson, and the cheerfulness with which he executed other drawings than those of his own department; supplying, in fact, the loss of Joseph Banks's other draughtsman who died in the beginning of the voyage. On this account Joseph Banks was pleased to say, it had been his constant intention to make Sydney Parkinson a very handsome present had he lived to return to England. His intention was now to take place, therefore, towards his brother and sister, to whom he would make the like present in consideration of such extra service, or, as Joseph Banks himself expressed it, a *douceur* to the family for the loss sustained in the death of so valuable a relation. There being due to the deceased upwards of £150 salary, the sole property of my sister Britannia, and Joseph Banks choosing to keep some of the effects bequeathed to me as before mentioned, it was agreed between Dr.

Fothergill and Joseph Banks that the latter should make up the sum of £500, to be paid into the hands of me and my sister.....

"It was in vain I expected Joseph Banks would keep his word with me. He sent me back, indeed, my brother's drawers and boxes quite empty, without the civility of even a message by the bearers. I complained, of course, to Dr. Fothergill, who afterwards said he could obtain no satisfaction for me. After several fruitless attempts to obtain it myself I wrote to Joseph Banks acquainting him that if he did not immediately return the curiosities I would inform the world of the whole transaction between us, and endeavour to indemnify myself by publishing also my brother's journal.

"As I made no secret of my design, and was known to have employed the proper artists to execute it, I was now solicited and entreated by Joseph Banks's friends to desist; Dr. Fothergill, in particular, offered me at different times, several sums of money to drop my intended publication, notwithstanding he knew Joseph Banks still detained my curiosities contrary to agreement, and refused to come to any accommodation.

"To delay this design and, if possible, suppress my book, which was almost ready to appear, Dr. Hawkesworth, whose compilation was not so forward, filed a bill in chancery against me, setting forth that I had invaded his property by printing manuscripts and engraving designs which I sold to

Joseph Banks, and which Joseph Banks afterwards sold to him. On this application an injunction was granted by the Court of Chancery to stop the printing and publishing of my work. Put thus to the trouble and expense of defending a suit in chancery, and the publication of my work being delayed when just ready to appear, I had yet no remedy but that of putting in a full answer to the bill and praying a dissolution of the injunction. This I at length obtained, the reasons for continuing the injunction not appearing [115] satisfactory to the Court. ... Indeed, the whole purpose appears to be litigious, and calculated to answer no other end than to delay my publication till he should get the start of me and publish his own, and this end, to my great damage and loss, it hath answered."

In conclusion, the editor says:—"Having thus given a simple, unvarnished narrative of the causes of the delay of this publication, I submit its encouragement to the judgment and candour of the public. In respect to the comparative merits of Dr. Hawkesworth's book and mine, it is not for me to say anything. If I have justified myself in the eye of the impartial world for persisting in this publication, I shall leave the works of my brother to speak his talents, thinking I have paid a proper respect to his memory, though it should be said of his journal that its only ornament is truth, and its best recommendation, characteristic of himself, its genuine simplicity."

In making a few extracts from Sydney Parkinson's Journal, I have confined myself to such as are not particularly mentioned in Cook's Voyage; paying especial attention to those which refer to our own immediate sea of Hawke Bay and the east coast of the North Island. It is a notable fact (though, perhaps, little known) that though Capt. Cook visited New Zealand several times and spent many months altogether in the bays and harbours and on the coasts of this country, the only bay which he fully explored and sailed all round its shores was our Hawke Bay, and that on his first voyage when Sydney Parkinson was with him.

Their whole number in their little barque the "Endeavour," of 370 tons, was ninety-six. At Madeira they had the misfortune to lose their chief mate, Mr. Ware, by drowning, which is thus related:—"His death was occasioned by an unlucky accident which happened to him while he stood in the boat to see one of the anchors slipped. The buoy-rope happening to entangle one of his legs, he was drawn overboard and drowned before we could lend him any assistance. He was a very honest, worthy man, and one of our best seamen." And a similar misadventure happened at their next port-of-call, Rio, where, "in coming out of the harbour, Mr. Flowers, an experienced seaman, fell from the main shrouds into the sea and was drowned before we could reach him."

These circumstances and others like them are brought to your notice in this memoir, that you should know that the successful voyage of our illustrious navigator cost a great sacrifice of human life from among his own ship's company. This has, I think, been almost, if not altogether, overlooked by the public at large, in reading or in hearing of Cook's famous voyage! The halo that justly surrounds his imperishable name is so grand, so overpowering, that the loss of so many of his brave companions during [116] that first eventful voyage, is, as it were, lost sight of; and yet I question if there has been another voyage of modern times in which so many skilled and useful men died, and not through battle or storm or dangers.

At Rio our voyagers received harsh treatment from the Viceroy, who prohibited any person coming on shore from the ship. This is fully related by Cook. Our artist says: "We were displeased in receiving this intelligence; Mr. Banks and Dr. Solander appeared much chagrined at their disappointment, but notwithstanding all the Viceroy's precautions we determined to gratify our curiosity in some measure, and having obtained a sufficient knowledge of the river and the harbour by the surveys we had made of the country, we frequently, unknown to the sentinel, stole out of the cabin window at midnight, letting ourselves down into a boat by a rope, and driving away with the tide until we were out of hearing, we then rowed to some unfrequented part of the shore where we landed and made excursions up into the country, though not so far as we could have wished to have done. The morning after we went on shore my eyes were feasted with the pleasing prospects that opened to my view on every hand. I soon discovered a hedge in which were many very curious plants in bloom, and all of them quite new to me. There were so many that I even loaded myself with them. We found also many curious plants in the salading that was sent off to us." From Rio he wrote to his brother saying he had "finished 100 drawings on various subjects and taken sketches of many more." He narrates that terrible night of Mr. Banks and Dr. Solander and their party in the snows on the mountains of Terra del Fuego, in which two men of the party were frozen to death, (which we have at full length and well told in Cook), adding,— "The dog that had been with them all night had survived them; he was found sitting close by his master's corpse, and seemed reluctant to leave it, but at length the dog forsook it, and went back to the company and to the ship." His remarks, in passing the straits of Le Maine and round Cape Horn, are worthy of notice:—

"The land on both sides, particularly Staten-land, affords a most dismal prospect, being made up chiefly of barren rocks and tremendous precipices, covered with snow and uninhabited, forming one of those natural views which human nature can scarcely behold without shuddering. How amazingly diversified are the works of the Deity within the narrow limits of this globe we inhabit, which, compared with the vast aggregate of systems that compose the universe, appears but a dark speck in the creation! A curiosity, perhaps equal to Solomon's, though accompanied with less wisdom than was possessed by the Royal Philosopher, induced some of us to quit our native land, to investigate the heavenly bodies minutely in distant regions, as well as to trace the signatures of the Supreme Power [117] and Intelligence throughout several species of animals, and different genera of plants in the vegetable system,— 'from the cedar that is in Lebanon, even unto the hyssop that springeth out of the wall;' and the more we investigate the more we ought to admire the power, wisdom, and goodness of the Great Superintendent of the universe; which attributes are amply displayed throughout all his works; the smallest object seen through the microscope declares its origin to be divine, as well as those larger ones which the unassisted eye is capable of contemplating: but to proceed. We saw Cape Horn at first at about five leagues distance, which, contrary to our expectations, we doubled with as little danger as the North Foreland on the Kentish coast; the heavens were fair, the wind temperate, the weather pleasant, and being within one mile of the shore, we had a more distinct view of this coast than perhaps any former voyagers have had on this ocean."

His mention of their landing at Tahiti, and what soon followed, is entertaining:—"In the morning we went ashore and pitched the marquee; Mr. Banks, the captain, and myself took a walk in the woods, and were afterwards joined by Mr. Hicks (the first lieutenant) and Mr. Green (the astronomer). While we were walking and enjoying the rural scene, we heard the report of some fire-arms, and presently saw the natives fleeing into the woods like frightened fawns, carrying with them their little movables. Alarmed at this unexpected event, we immediately quitted the wood and made to the side of the river, where we saw several of our men, who had been left to guard the tent, pursuing the natives, who were terrified to the last degree; some of them skulked behind the bushes, and others leaped into the river. Hearing the shot rattle amongst the branches of the trees over my head, I thought it not safe to continue there any longer, and fled to the tent, where I soon learned the cause of the catastrophe. A sentinel being off his guard, one of the natives snatched a musket out of his hand, which occasioned the fray. A boy, a midshipman, was the commanding officer, and giving orders to fire, they obeyed with the greatest glee imaginable, as if they had been shooting at wild ducks, killed one stout man, and wounded many others. What a pity that such brutality should be exercised by civilized people upon unarmed, ignorant Indians! When Mr. Banks heard of the affair, he was highly displeased, saying, 'If we quarrelled with those Indians we should not agree with angels;' and he did all he could to accommodate the difference, going across the river, and, through the mediation of an old man, prevailed on many of the natives to come over to us, bearing plantain trees (which is a signal of peace amongst them), and, clapping their hands to their breasts, cried 'Tyau!' which signifies friendship. They sat down by us, sent for cocoa-nuts, and we drank the milk with them. They were very social, more so than could have [118] been expected, considering what they had suffered in the late skirmish! Have we not reason to conclude that their dispositions are very flexible, and that resentment with them is a short-lived passion?"

On their voyage south from the islands we have these entries:—"August 27th. We killed a dog and dressed him, which we brought on the 8th from Ulietea (Raiatea); he was excessively fat, although he had eaten nothing while he had been on board. On the evening of the next day, 28th, John Raden, the boatswain's mate, died. His death was occasioned by drinking too freely of rum the night before.— September 29th. Saw several parcels of sea-weed, and a land-bird that flew like a plover; with a great number of large white albatrosses with the tips of their wings black. We sounded and found no bottom with 120 fathoms of line. The captain apprehended that we were near land, and promised one gallon of rum to the man who should first discover it by day, and two if he discovered it by night; also, that part of the coast of the said land should be named after him. On the 1st of October the weather was fair but very cold, and almost calm. We saw a seal asleep upon the surface of the water, which had, at first, the appearance of a log of wood; we put the ship about to take it up, but it waked and dived out of sight. The master was sent in quest of a current but could find none; we having gone ten leagues farther to the north than what appeared in the log account. Though we had been so long out at sea in a distant part of the world, we had a roasted leg of mutton and French beans for dinner, and the fare of Old England afforded us a grateful repast. On the 2nd the sea was as smooth as the Thames. Mr. Banks went out in a little boat, and diverted himself in shooting of shearwaters; he also shot one white

albatros that measured 10.7 feet; the water looked as green as it does in the Channel. On the 4th a great shoal of bottlenosed porpoises swam alongside of the ship, with a great number of other porpoises having sharp white snouts, and their sides and bellies of the same colour. On the 5th we had light breezes from the N.E. and pleasant weather; about two o'clock in the afternoon, one of our people, Nicholas Young, the surgeon's boy, descried a point of land of New Zealand from the starboard bow, at about nine leagues distance, bearing W. and by N. We bore up to it, and at sunset we had a good view of it. The land was high, and it appeared like an island. We regaled ourselves in the evening upon the occasion; the land was called 'Young Nick's Head,' and the boy received his reward. The sea on this coast was full of a small transparent animal, which, upon examination, we called *Beroe coarctata*. On the 8th we had light breezes and dead calms all day, and could not get in nearer the land than two or three leagues: but it appeared at this distance to be of considerable extent. We saw smoke [119] ascend from different parts, and thence concluded that it was inhabited. On the 9th, early in the morning, the wind being favourable, we stood in nearer land, where it seemed to open and form a deep bay; but on approaching it we discovered low land, and it was much shallower than we expected. Upon entering we had regular soundings all the way, from twenty-six to six fathoms, and cast anchor on the east side in ten fathoms water about two or three miles from the shore, over against the land on the right where there was the appearance of a river. ... Having cast anchor, the pinnace, long-boat, and yawl were sent on shore with the marines. As soon as the people who were in the pinnace had passed a little way up into the country, while the long-boat went up the river to see for water, some of the natives, who had hid themselves among the bushes, made their appearance, having long wooden lances in their hands, which they held up in a threatening posture as if they intended to throw them at the boys in the yawl. The coxswain, who stayed in the pinnace, perceiving them, fired a musketoon over their heads, but that did not seem to intimidate them; he therefore fired a musket, and shot one of them through the heart, upon which they were much alarmed and retreated precipitately. The water in the river was found to be brackish, in which we were disappointed; but they shot some wild ducks of a very large size, and gathered a variety of curious plants in flower.

"Early on the morning of the 10th the long-boat, pinnace, and yawl went on shore again, landed near the river where they had been the night before, and attempted to find a watering-place. Several of the natives came toward them, and, with much entreating, we prevailed on some of them to cross the river, to whom we gave several things, which they carried back to their companions on the other side of the river, who seemed to be highly pleased with them and testified their joy by a war-dance. Appearing to be so pacifically disposed, our company went over to them and were received in a friendly manner. Some of the natives were armed with lances, and others with a kind of stone-bludgeon; through the handle of it was a string which they twisted round the hand that held it when they attempted to strike at any person. We would have purchased some of their weapons, but could not prevail on them to part with them on any terms. One of them, however, watched an opportunity and snatched a hanger from us; our people resented the affront by firing upon them and killed three of them on the spot; but the rest, to our surprise, did not appear to be intimidated at the sight of their expiring countrymen who lay weltering in their blood, nor did they seem to

breathe any revenge upon the occasion; attempting only to wrest the hanger out of the man's hand that had been shot, and to take the weapons that belonged to their other two [120] deceased comrades, which having effected, they quietly departed. After having taken possession of the country in form for the King, our company embarked and went round the bay in search of water again, and to apprehend, if possible, some of the natives, to gain farther information of them respecting the island. They had not gone far before they saw a canoe, gave chase to it, and when they came up with it, the crew threw stones at them, and were very daring and insolent. Our people had recourse to their arms; the Captain, Dr. Solander, and Mr. Banks fired at them and killed and wounded several of them. The natives fought very desperately with their paddles, but were soon overpowered; their canoe was taken, three of them made prisoners and brought on board the ship, and the rest were suffered to escape. They were in person much like the natives of Otaheite, but were loud and rude in their address, and more unpolished than the Otaheitians. We were much surprised to find they spoke the Otaitian language, though in a different dialect, speaking very guttural, having a kind of *hec* which some of the people of Ulietea have in their speech. Tupaea understood them very well, notwithstanding they made frequent use of the *g* and *k*, which the people of Otaheite do not. Their canoe was thirty feet long, made of planks sewed together, and had a lug-sail made of matting. ... We found here a sort of long-pepper which tasted very much like mace; a *Fulica* or a bald-coot of a dark blue colour; and a blackbird, the flesh of which was an orange colour, and tasted like stewed shell-fish. A vast quantity of pumice-stone lies all along upon the shore<sup>266</sup> within the bay, which indicates that there is a volcano in this island. On the 12th, early in the morning, we weighed anchor and attempted to find some better anchoring-place, as this bay (which, from the few necessaries we could procure, we called Poverty Bay) was not well sheltered from a S.E. wind, which brings in a heavy sea. The natives called the bay Te Oneroa, and the point of land at the entrance on the east side they called Te Tua Motu.

On the 13th, in the afternoon, after we had doubled a small high island, which was called Portland Isle, (or according to the natives, Te Haure,) we got into a sort of large bay, and the night coming on we thought it best to drop anchor, designing, next morning, to make for a harbour in the corner of the bay, where there was the appearance of an inlet. ... On the 14th we made for the inlet which we saw the night before, and on coming up to it found that it was not sheltered, having only some low land at the bottom of it. Ten canoes filled with people chased us, but our ship sailing too fast for them they were obliged to give over the pursuit. We sailed round most part of the bay without finding any opening, and the soundings all along the shore were very regular. The country appeared more fertile [121] hereabout, and well covered with wood, the sea-shore making in clayey cliffs, upon which the surf broke very high. This bay was called Hawke's Bay. In the afternoon a canoe followed us with eighteen people in her armed with lances, but as they could not keep pace with us they gave up their expedition. In sailing along we could plainly distinguish land that was cultivated, parcelled out into square compartments, having some sorts of herbs growing upon them. On the 15th in the morning, we bent our course round a small peninsula which was joined to the mainland by a low isthmus, on which were

266 WC: This does not appear in Cook.

many groves of tall straight trees, that looked as if they had been planted by art; and within side of it the water was quite smooth. We saw some very high ridges of hills streaked with snow, and when we had doubled the point of this peninsula, the low isthmus appeared again stretching a long way by the sea-side. The country looked very pleasant, having fine sloping hills which stretched out into beautiful green lawns, though not covered with wood, as other parts of the coast are. In the morning, while we were on the other side of the peninsula, nine canoes came off to us, in which were 160 of the natives; they behaved in a very irresolute manner, sometimes seeming as if they would attack us, then taking fright and retreating a little, one half paddling one way, and the other half paddling another, shaking their lances and bone bludgeons at us, talking very loud and blustering, lolling out their tongues, and making other signs of defiance. We did all we could to make them peaceable but to no purpose, for they seemed at length resolved to do us some mischief; coming alongside of the ship again and threatening us, we fired one of our guns loaded with grape-shot over their heads. They looked upon us for some time with astonishment, and then hastened away as fast as they could. By this time two other canoes came towards us, but stopped a little and held a conference with those that were returning, and then made up to us, leaving the rest at some distance, who seemed to wait their destiny. We made signs to them that we meant them no harm if they would behave peaceably, which they so well understood that they took all their weapons and put them into a canoe and sent it off while they came close to the ship. We threw them several kinds of things, but they were so timorous that they durst not venture on board, nor would they send anything to us. During this interview another canoe came up, threw a lance at the stern of the ship, and made off again. The lance fell into the water and sunk immediately. ... Their canoes had from eighteen to twenty-two men in them, and were adorned with fine heads made out of a thick board, cut through like filagree work, in spirals of very curious workmanship. At the end of this was a head with two large eyes of mother-of-pearl, and a large heart-shaped tongue. This figure went round the bottom of the board, and had feet and [122] hands carved upon it very neatly and painted red; they had also high-peaked sterns, wrought in filagree and adorned with feathers, from the top of which depended two long streamers, made of feathers, which almost reached the water. Some of these canoes were between fifty and sixty feet long, and rowed with eighteen paddles by the like number of men, who look the same way they row, striking their paddles into the water with their points downward, at the same time bending their bodies forward, and as it were, driving the waves behind them. They gave us two *heivos* in their canoes which were very diverting. They beat time with their paddles, and ended all at once with the word *epaah*, at the same instant striking their paddles on the thwarts, all which afforded a truly comic act.

"On the 16th we had several fisher canoes come to us, and, after much persuasion, they gave us some fish for cloth and trinkets; but none of their fish was quite fresh, and some of it stank intolerably. They went away very well satisfied, and then a larger canoe, full of people, came up to us, having their faces shockingly besmeared with some paint. An old man, who sat in the stern, had on a garment of some beast's skin, with long hair, dark brown, and white border, which we would have purchased, but they were not willing to part with anything. When the captain threw them a piece of red baize for it, they paddled away immediately, held a conference with the fishers' boats, and then returned to the

ship. We had laid a scheme to trepan them,<sup>267</sup> intending to have thrown a running bow-line about the head of the canoe, and to have hoisted her up to the anchor: but just as we had got her ahead for that purpose, they seized Tupaea's little boy, who was in the main-chains, and made off with him, which prevented the execution of our plan. We fired some muskets and great guns at them, and killed several of them.<sup>268</sup> The boy soon after disengaged himself from them, jumped into the sea, swam toward the ship, and we lowered a boat down and took him up, while the canoes made to land as fast as possible.

"In the evening we were over against a point of land, which, from the circumstance of stealing the boy, we called Cape Kidnappers. On doubling the cape we thought to have met with a snug bay, but were disappointed, the land tending away to a point southwards. Soon after we saw a small [123] island, which, from its desolate appearance, we called Bare Island. On the 17th we sailed along the coast, near as far as 41°, but not meeting with any convenient harbour to anchor in, the land lying north and south, when we came abreast of a round bluff cape, we turned back, being apprehensive that we should want water if we proceeded farther to the southward. We saw several villages, and in the night some fires burning upon the land. The coast appeared more barren than any we had seen before. There was clear ground and good anchorage upon the coast two or three miles from the shore, and from eight to twenty fathoms water. This cape we named Cape Turnagain.

"On the 19th, in the afternoon, we were off Hawke's Bay, which we could not enter, the wind being foul. A canoe came to us with five people in it, who seemed to place great confidence in us. They came on board, and said they would stay all night. The man who seemed to be the chief had a new garment, made of the white silky flax, which was very strong and thick, with a beautiful border of black, red, and white round it.

"On the 20th, early in the morning, having a fine breeze, we made Table Cape, passed Poverty Bay, and came to a remarkable point of land, being a flat, perpendicular, triangular-shaped rock, behind which there appeared to be a harbour, but on opening it we found none. This point we called Gable-end Foreland. The country is full of wood, and looks very pleasant in this part; but towards night we saw some land that appeared very broken and dreary, formed into a number of points, over which we could see the back land.

"On the 21st we anchored in a very indifferent harbour, in eight and a-half fathoms water, about one mile and a-half from the shore, having an island on the left hand, which somewhat sheltered us. Many canoes came off to us, and two old men of their chiefs came on board. These people seemed very peaceably inclined, and were willing to trade with us for several trifles which they had brought with them. We saw many houses, and several tracts of land, partly

267 WC: Not mentioned in Cook.

268 WC: I saw in 1843–45, at Waimarama, a village a few miles south of Cape Kidnappers, an aged native, who remembered this incident, and I also obtained from several natives, descendants from and near relatives to the sufferers on that occasion, their account of the affair, received from their forefathers; five, it appears, were killed, and several wounded. One of the poor fellows had received a ball in his knee joint, which could not be extracted, and which made him a helpless cripple during a long life.—(W.C., Journal, Ms.)

hedged in and cultivated, which formed an agreeable view from the harbour, called by the natives Te Karu. Some of our boats went ashore for water, and found a rivulet, where they filled their casks, and returned to the ship unmolested by the inhabitants, many of whom they saw near the rivulet.

"On the 22nd, in the morning, the boats went on shore again for wood and water; and a short time after, Mr. Banks and some others followed them; and while they were absent the natives came on board and trafficked with us, having brought some parcels of kumera and exchanged them with us for Otaheite cloth, which is a scarce commodity among them. They were very cunning in their traffic, and made much of low artifice. One of them [124] had an axe made of the before-mentioned greenstone, which he would not part with for anything we offered him. Several of them were very curiously tattooed. The natives, both on board and on shore, behaved with great civility, and at night they began to *heivo* and dance in their manner, which was very uncouth. Nothing could be more droll than to see old men with grey beards assuming every antic posture imaginable, rolling their eyes about, lolling out their tongues, and, in short, working themselves up to a sort of phrenzy.

"The surf running high, the men who went on shore found great difficulty in getting the water into the long-boat, and in coming off the boat was swamped. We therefore enquired of the natives for a more convenient watering-place, and they pointed to a bay bearing S.W. by W. On receiving this information we weighed anchor, but the wind being against us we stood off and on till the next morning, the 23rd, and then bore away to leeward, and looked into the bay which we had passed before. About noon we dropped anchor, and one of our boats went into a little cove where there was smooth landing and fresh water, and we moored the ship about a mile and a-half from the shore. This bay is called by the natives 'Tolago,' and is very open, being exposed to all the violence of the east wind. Several canoes came alongside of the ship, of whom we got some fish, kumeras or sweet potatoes, and several other things; but the natives were indifferent about most of the things we offered them, except white cloth and glasses which suited their fancy, so that we found it difficult to trade with them. They had some greenstone axes and earrings, but they would not part with them on any terms; and as to their kumeras they set great value upon them.

"The country about the bay is agreeable beyond description, and with proper cultivation, might be rendered a kind of second Paradise. The hills are covered with beautiful flowering shrubs, intermingled with a great number of tall and stately palms, which fill the air with a most grateful fragrant perfume. We saw the tree which produces the cabbage, which ate well boiled. We also found some trees yielded a fine transparent gum, and between the hills we discovered some fruitful valleys that are adapted either to cultivation or pasturage. The country abounds with different kinds of herbage fit for food. Our botanists were agreeably employed in investigating the trees and plants of the country. Within land there were many scandent ferns and parasitic plants, and on the sea-shore *Salicornias*, *Mesembryanthemum*, and others. The plant of which they make their cloth is a sort of *Hemerocallis*, and the leaves yield a very strong and glossy flax, of which their garments and ropes are made. Adjoining their houses are plantations of kumera and taro. These grounds are cultivated with great care and kept clean and neat. [125]

"The natives behaved very civil to us; they are, in general, lean and tall yet well-shaped, have faces like Europeans, and, in general, the aquiline nose, with dark-coloured eyes, black hair which is tied up on the crown of the head, and beards of a middling length. ... Their cloth is white and as glossy as silk, worked by hands, and wrought as even as if it had been done in a loom, and is chiefly worn by the men though it is made by the women, who also carry burdens and do all the drudgery. Many of the women that we saw had very good features, and not the savage countenance one might expect. The men have their hair tied up, but the women's hangs down, nor do they wear feathers in it like the men, but adorn it with leaves. They seem to be proud of their sex, and expect you should give them everything they desire because they are women, but they take great care of themselves, and are exceedingly modest, in this respect being very different from the women we saw in the islands.

"The men have a particular taste for carving; their boats, paddles, boards to put on their houses, tops of walking-sticks, and even their boats' valens are carved in a variety of flourishes turnings and windings that are unbroken; but their favourite figure seems to be a volute or spiral which they vary many ways—single, double, and triple—and with as much truth as if done from mathematical draughts; yet the only instrument we have seen are a chisel and an axe, both made of stone. Their fancy, indeed, is very wild and extravagant, and I have seen no imitations of nature in any of their performances, unless the head and the heart-shaped tongue hanging out of the mouth of it may be called natural.

"We saw many beautiful parrots and birds of various kinds—one in particular that had a note very much like our blackbird, but we found no ground fowl or domestic poultry. Of quadrupeds we saw no other than dogs, which were like those on the island of Otaheite, and of them but a few. ... From the view which we had of the coast, and the observations made, we might judge that the country is well-situated, naturally fertile, and capable of great improvement by cultivation, especially as the climate is distinguishably mild and favourable. We had clear and fair weather all the time we were on the coast, excepting one day, and though the weather was hot, yet it seemed, by what we observed, that a sea-breeze constantly set in about eleven o'clock in the forenoon which moderated it.

"On the 30th, having obtained a sufficient quantity of wood and water, we left the bay, and, sailing along the coast, about noon came up with a point of land before an island; this point we called East Cape, and the island East Island, from which the land altered its direction and tended away to the W. We saw several villages which seemed to have been fenced in by art, and some parcels of ground cultivated. We passed a bay which [126] we called Hicks's Bay, after our first lieutenant. On the 31st we sailed along the coast and had light breezes and pleasant weather. In the forenoon seven canoes came off to us in a hostile manner, brandishing their lances and waving their paddles. One of these canoes was very large and had between fifty and sixty people in her; some of them gave us an *heivo*; and one of them—a priest, as we supposed—talked very much. They kept paddling about us, calling out to us that, if we would go on shore, they would beat us with their patta-pattoos, and, being apprehensive that if we suffered them to approach nearer to us we might be obliged to offer violence to them, the captain ordered a gun, loaded with grape-shot, to be fired over their heads, the report of which terrified them so much that they paddled away till they had got, as they

supposed, out of our reach, and then they stopped and held a consultation, after which they seemed as if they intended to return, and we fired another gun loaded with ball, and then they made as fast as possible to the shore. Being at this time off a cape, we named it, from the hasty retreat of the natives, Cape Runaway.

"On the 1st of November a great number of canoes came off us, one of which had part of a human skull to bale out the water with. We prevailed on some of the natives to come alongside of the ship, and traded with them for cloth, crayfish, and mussels. They gave us several *heivos*, but some of them seemed to threaten us. A breeze springing up we left them, and a little further on the coast another squadron of fisher boats came off to us, with whom also we had some traffic. These, as well as the rest, were very ready to snatch anything they could lay their hands on; and, watching an opportunity, they stole a pair of sheets that were tied by a line at the ship's stern, and were going off with them, upon which we fired several muskets, but they did not much regard them. We then fired some grape-shot amongst them, and they paddled away something faster, till they imagined themselves out of our reach, and then they held up their paddles and seemed to defy us. We fired another gun loaded with round and grape-shot, which passed between two canoes and narrowly missed them, on which they hesitated no longer, but repaired immediately to the shore. Toward night we were near a small island, called by the natives Mowtohora, about three leagues from the land. In going between this and the mainland, a canoe came off from the island. This canoe was double, and differed in other respects from those we had seen before. After we had talked with the people which came in it a considerable time, they gave us several *heivos*, then looked at us very steadfastly, and, having threatened us, stood off towards the mainland. Opposite to this is a high-peaked hill, which we named Mount Edgecombe; and a small bay, which we called Lowland Bay; and the two points thereof, from their situation, Highland [127] Point and Lowland Point, the latter of which stretches a great way, and is covered with trees. Near it there are three small islands or rocks, and it was with difficulty that we steered clear of them in the night, and got into six fathoms water, soon after which we made a point of land, which we called Town Point. This was at the entrance of a little cove.

"On the 2nd, in the morning, we discovered three sorts of land; but, as the weather was hazy, could not make many observations. We also passed three other islands: one of them was rocky, high, and barren, which we called White Island. The other two were lower; one of them we named Flat Island, in which we saw a village. A canoe pursued us, but, having a brisk breeze, it could not overtake us. Toward night it blew pretty hard, right on shore; we therefore tacked about, and sailed backward and forward till the next morning, the 3rd. Then the canoe which we saw the night before gave us chase again. Having a sail, they at length came up with us; sailed alongside of us for a considerable time, and now and then gave us a song, the tune of which was much like the chant which some priests use. They also gave us a *heivo*, but soon after threw some stones at us; we fired a musket, loaded with small shot, at a young man which distinguished himself at the sport, and he shrunk down as if he had been wounded. After a short consultation they doused the sail, and stood back for an island. We sailed along with a moderate breeze, and passed a cluster of rocks, which we called the Court of Aldermen; and, from the vicinity of one of the three last-mentioned islands to them,

we gave it the name of the Mayor. This cluster of rocks lies off a point of land, and terminates the bounds of this large bay to the north-west, which, from the number of canoes that came off to us, bringing provisions, we named the Bay of Plenty.

"The coast hereabout appeared very barren, and had a great number of rocky islands, from which circumstance we named the point Barren Point. The land is very grotesque, being cleft or torn into a variety of strange figures, and has very few trees upon it. About noon several canoes came off to us, and the people in them were so daring as to throw a lance into the ship, but we fired a musket, and they paddled away from us. Their canoes were formed out of one tree, and shaped like a butcher's tray, without any ornament about them. The people, who were naked, were of a very dark complexion, and made a mean appearance. We stood in for a bay, and at night anchored in it, having seven fathoms water. Several canoes like the former followed us; they were very merry, and gave us several *heivos*, or cheers. This bay, which the inhabitants call Purangi, is the best harbour we have found, being well land-locked, and with a good landing at the watering-place. [128]

"On the 4th, early in the morning, we were visited by several canoes; the people in them, about 135 in number, had a few arms, but seemed unresolved what to do. At last they traded with us, exchanging the few trifles they had brought for cloth. They were very sly, and attempted to cheat us. We fired several muskets at them, and wounded two of them; the rest, however, did not seem to be alarmed till the captain shot through one of the canoes, which struck them with a panic, and on firing a great gun they made off to land.

"On the 9th, a great number of the natives came in canoes about the ship and brought us a large quantity of fish, mostly of the mackerel kind, with a few John Dories, and we pickled down several casks full of them. Some of these canoes came from another part of the country, which were larger and of a better sort than the rest; the people in them, too, had a better appearance; among whom were some of superior rank, furnished with good garments, dressed up with feathers on their heads, and had various things of value amongst them which they readily exchanged for Otaheite cloth. In one of the canoes there was a very handsome young man of whom I bought some things; he seemed by the variety of his garments, which he sold one after another till he had but one left, to be a person of distinction among them; his last garment was an upper one, made of black and white dogskin, which one of the lieutenants would have purchased, and offered him a large piece of cloth for it, which he swung down the stern by a rope into the canoe; but as soon as the young man had taken it, his companions paddled away as fast as possible, shouting and brandishing their weapons as if they had made a great prize, and, being ignorant of the power of our weapons, thought to have carried it off securely; but a musket was fired at them from the stern of the ship; the young man fell down immediately, and, it is probable, was mortally wounded, as we did not see him rise again. What a severe punishment of a crime committed, perhaps, ignorantly! The name of this unfortunate man, we afterwards learned, was Te Riunui.

"The wind having been against us for several days, and as we could get no farther with our heavy ship, on the 29th in the morning, having weathered a long point of land, which we named Cape Brett, we bore away to leeward, got into a very large harbour where we were land-locked, and had

several pretty coves on every side of us. We passed a small island which we named Piercy Island, and soon after cast anchor. Many canoes came off to us, and the people in them, according to custom, behaved somewhat unruly. While I saluted one of them, in their manner, he picked my pocket. Some of our people fired upon them, but they did not seem to regard it much. One of our boats went on shore, and then they set off all at once and attempted to [129] seize her, in which, however, they failed; but soon after Mr. Banks got on shore he had like to have been apprehended by one of the natives, but happily escaped. The marines fired upon them, five great guns were fired from the ship, and Te Kuku, son to one of their chiefs, was wounded in the thigh.”<sup>269</sup>

“On the 15th a canoe came into the bay that had eighty people in her, most of whom paddled; the chiefs wore garments of dog-skins, and were very much tattooed. We saw many plantations of the kumera, and some of the aute, or cloth trees. At night again it was almost calm, and we were near the shore. We designed to tack about but were hurried by an eddy tide upon the breakers off a point of land called by us Point Pococke, before we were aware of it, which threw us into a panic and occasioned great confusion. Not having room to anchor we hoisted out the pinnace to tow her off; we thought we had seen a whale but it proved to be a rock, and we struck upon it twice. We got clear of it again and streamed the buoy, but luckily did not let go the anchor.

“On the 15th January we anchored in a snug cove in a bay on the south side of Cook’s Straits. The woods here abound with divers kinds of birds, such as parrots, wood-pigeons, water-hens, three sorts of birds having wattles, hawks, with a variety of birds that sing all night. We also found a great quantity of a species of *Philadelphus*, which makes a good substitute for tea. At one particular place we met with a substance that appeared like a kid’s skin, but it had so weak a texture that we concluded it was not leather, and were afterwards informed by the natives that it was gathered from some plant called *Ti kume*; one of them had a garment made of it which looked like their rug cloaks. The natives in this part of New Zealand wear large bunches of feathers on their heads and their garments in a singular manner, just as Abel Tasman, the person who, about 150 years ago, discovered this land, has figured in his work. They were not desirous of anything we had except nails, which they soon discovered to be useful. When these people are pleased on any particular occasion they express it by crying *Ai*, and make a cluck with their tongues not unlike a hen’s when she calls her chickens. While we lay here some of our people went towards the *pa* in a boat; several of the natives came out to welcome them; most likely they took it to be a traverse, and Mr. Monkhouse shot at them. An old man came in a few days after and told us that one person was dead of a wound which he received. In this *pa* there were about thirty-two houses, containing upwards of 200 inhabitants. [130]

“On the 7th February we weighed anchor and proceeded along the straits with the tide and a fine breeze which set us through with great rapidity, and, being willing to satisfy ourselves whether the north part of this land was an island, we resolved to sail as far N. as Cape Turnagain. The two

eastermost points of the straits we called Cape Campbell and Cape Palliser. On the 8th we sailed along the south coast of the (North) Island. In the afternoon three canoes came off to us—two of them were large and handsome. The natives in them behaved peaceably, and, by asking for nails, we concluded they had heard of us from the people of some other islands where we had been. They were very much like the natives of Matarukau, a village in Tolago Bay, being very neatly dressed, having their hair knotted on the crown of their heads in two bunches, one of which was *Tamouu*, or plaited, and the wreath bound round them the same. In one of the canoes there was an old man who came on board attended by one of the natives: he was tattooed all over the face with a streak of red paint over his nose and across his cheek. His brow, as well as the brows of many others who were with him, was much furrowed; and the hair of his head and beard quite silvered with age. He had on a flaxen garment ornamented with a beautiful wrought border, and under it a petticoat made out of a sort of cloth which they call “*Aooree Waow*,” on his ears hung a bunch of teeth, and an ear-ring of poonamoo or greenstone. For an Indian, his speech was soft, and his voice so low that we could hardly hear it. By his dress, carriage, and the respect paid to him, we supposed him to be a person of distinction amongst them. On the 9th, at noon, we had a good view of Cape Turnagain. We passed two points of land to which we gave the names of Castle Point and Flat Point.

“On the 14th we passed Cook’s Straits, without seeing them, on the east side of Te wai pounamu. In the afternoon four double canoes, in which were fifty-seven people, came off to us; they had some leaves about their heads, but few clothes on their bodies. They kept aloof from us; nor could we persuade them to traffic with us. Having beat to windward for several days without gaining any way, with the weather gloomy and very cold, on the 24th we had a fresh breeze from the N. which carried us round the outermost point of the land we had seen, which we called Cape Saunders, beyond which the land tended away to the S.W. On the 4th March, after having beat about near a week, we got sight of land again and saw the appearance of a harbour which we named Molineux’s Harbour, after the name of the master of our ship. We had light breezes and calms till the 9th, and, at the dawn of that day, we narrowly escaped running the ship upon a ledge or parcel of craggy rocks, some of which were but just seen above water. They were luckily discovered by the midshipman’s going [131] to the masthead. The breeze being moderate we put the helm a-lee, and were delivered from this imminent danger by the good providence of God. ... We stood out to sea, but, meeting with contrary winds, we beat to windward for a considerable time; at length, the wind coming fair, we steered westerly, and unexpectedly found ourselves between two large shoals which had some rocks upon them, but we fortunately escaped them. We called these shoals the Traps. This day being one of the inferior officers’ birthday, it was celebrated by a peculiar kind of festival; a dog was killed that had been bred on board; the hind-quarters were roasted, and a pye was made of the fore-quarters, into the crust of which they put the fat; and of the viscera they made a haggis.”

On the 31st March Captain Cook and his party left New Zealand on their homeward voyage, and on the 6th May we have the following entry in our artist’s journal when on the coast of New Holland:— “On this day Forbes Sutherland, a native of the Orkneys, who had departed this life, was carried on shore and decently interred.” And on the 22nd of

269 WC: The plate containing the likeness of this young man shows a style of tattooing which has become scarce, if not wholly extinct. I have seen but few specimens, and those more than thirty-five years back.

the same month this strange entry:— “This day the captain’s clerk had his ears cut off, and also his clothes cut off his back.” To which is added in a note:— “The captain and officers offered some time after, at Batavia, a reward of fifteen guineas to any one who should discover the person or persons who cut off his ears, and fifteen gallons of arrack to any one that should discover him or them who had cut off his clothes.” And afterwards, in December, while at Batavia, an entry in the journal thus;— “One of our midshipmen ran away from us here, and it was suspected that he was the person who cut off Orton’s ears.”

After having been wrecked off the coast of New Holland, and with the greatest difficulty saving the ship, and then, taking out all her cargo, running her on shore and repairing her, which was accompanied with severe labour and hardship, they anchored in the road of Batavia on the 10th of October, where the ship was examined and repaired. During this time several died, and Mr. Parkinson makes this entry:— “While our ship was repairing, three of the crew died; also, Tupaea and the lad Taiota, natives of Otaite, whom we designed to have brought to England. Before our arrival at Batavia, they had made great progress in the English tongue, in which they were greatly assisted by Mr. Green, the astronomer, who took much pains therein, especially with Taiota. When Taiota was seized with the fatal disorder, as if certain of his approaching dissolution, he frequently said to those of us who were his intimates, ‘My friends, I am dying!’ He took any medicines that were offered him; but Tupaea, who was ill at the same time, and survived him but a few days, refused everything of that kind, and gave himself up to grief, regretting in the highest degree that he [132] had left his own country; and when he heard of Taiota’s death, he was quite inconsolable, crying out frequently, ‘Taiota! Taiota!’ They were both buried in the island of Eadam. During our stay at Batavia, most of us were sickly; Mr. Monkhouse, our surgeon, and the astronomer’s servant also died, and some others hardly escaped with life.”

On the 26th December they left Batavia, and on the 5th January arrived at Prince’s Island, where they stayed about ten days. At this place ends S. Parkinson’s Journal.

Captain Cook says:— “In the morning of the 26th we weighed and set sail. At this time the number of sick on board amounted to forty, and the rest of the ship’s company were in a feeble condition. Every individual, including myself, had been sick, except the sailmaker, an old man between seventy and eighty years of age, and it is very remarkable that this old man, during our stay at this place, was constantly drunk every day. ... We now made the best of our way for the Cape of Good Hope, but the seeds of disease which we had received at Batavia began to appear with the most threatening symptoms in dysenteries and slow fevers. Mr. Banks was among the sick, and for some time there was no hope of his life. We were very soon in a most deplorable condition; the ship was nothing better than a hospital, in which those that were able to go about were too few to attend the sick, who were confined to their hammocks; and we had almost every night a dead body to commit to the sea. In the course of about six weeks we buried Mr. Sporing, a gentleman who was in Mr. Banks’s retinue, *Mr. Parkinson, his natural history painter*, Mr. Green, the astronomer, the boatswain, the carpenter and his mate, Mr. Monkhouse the midshipman (who had foisted the ship after she had been stranded on the coast of New Holland), our jolly old sailmaker and his assistant, the ship’s

cook, the corporal of marines, two of the carpenter’s crew, a midshipman, and nine seamen; in all twenty-three persons, besides the seven that we buried at Batavia.”

A few more sentences from Captain Cook:— “On the 15th March we anchored off the Cape of Good Hope, having only six men capable of doing duty,<sup>270</sup> so that we could not send our boat on shore. ... Having lain here to recover the sick and procure stores till the 13th of April, I then got all the sick on board, several of whom were still in a dangerous state; I unmoored and got ready to sail, having engaged some Portuguese to supply the loss of our sailors. The next evening I anchored under Robin Island. On the 25th we weighed and put to sea. About an hour afterwards we lost our master, Mr. Robert Molineux, a young man of good parts but unhappily given up to intemperance, which [133] brought on disorders that put an end to his life. On the 1st of May we anchored at St. Helena, where we remained till the 4th, when we weighed and put to sea. On the 23rd died our first lieutenant, Mr. Hicks. Our rigging and sails were now become so bad that something was giving way every day. We continued our course, however, in safety till the 10th of June, when land, which proved to be the Lizard, was discovered by Nicholas Young, the same boy that first saw New Zealand, and on the 12th came to an anchor in the Downs; after having been absent from England within a few days of three years, when we immediately sent our sick on shore.”

Voyagers in our day can form but a very poor conception of what Cook and his companions had daily to endure during their three years’ voyage in the “Endeavour.” From New Zealand at that time, though much in want of fresh supplies, they could get little besides fish, and wood, and water, and some sea-side weeds as vegetables. They also got with difficulty a few sweet potatoes; this, however, was owing to its being the wrong season of the year for kumera, being just the planting season, at which time the natives themselves have very few (if any) to use as food. And the New Zealand forests afforded no good edible fruits. By Captain Cook and his officers, as we have seen, a dog was considered a great luxury; and the rank weeds of our shores, wild celery, and scurvy-grass (*Apium australe*, and *Lepidium oleraceum*), most welcome vegetables!

During their eventful voyage they lost just two-fifths of their number, including a large majority of their officers and principal men, none of whom were killed in battle or lost their lives through storms or dangers. They lost the first lieutenant, the master, the chief mate, two midshipmen, the boatswain, the sailmaker and his assistant, the carpenter, the carpenter’s mate and two of his crew, the ship’s cook, and sixteen seamen; also, the corporal of marines, the surgeon, the astronomer, the two draughtsmen, and Mr. Banks’s secretary, also his negro servant, and the two Tahitians, Tupaea and Taiota—making a sad total of thirty-eight! and, possibly, some more of the sick who were carried on shore. Well might Captain Cook call his ship a “floating hospital!”

The names, however, of those officers and gentlemen live here among us in the bays and isles and headlands named after them by Captain Cook. The islet at Anaura (which, as Parkinson said in his journal, “somewhat sheltered their ship “when they first got water in New Zealand) was named after our artist, just as the other small island in the adjoining bay of Tolago was named after Mr. Banks’s secretary, Mr.

<sup>270</sup> WC: Parkinson’s Journal, p. 210.

Sporing.<sup>271</sup> "Parkinson Islet" is so named in the very neat map of New Zealand in Sydney Parkinson's journal; but, curiously enough, while the islet is correctly given in the [134] larger map of New Zealand in Cook's First Voyage, the name is omitted, while all the other small single islets along the coast seen by them, from Bare Island to the Mayor, have their names inserted. Is this another indication of that "mean and invidious suppression" on the part of Dr. Hawkesworth and Mr. Banks (complained of by the editor of the "Journal"), which feeling caused them to disallow the insertion of Sydney Parkinson's name at the corner of his engraved drawings? Possibly it may be so. I have also noticed that a few engravings in Cook's *First Voyage* of articles taken home in the ship, and of subjects *got up* in England, bear the names of their designers or copyists—which makes the omission of our artist's name the more glaring. If such, as I have ventured to suppose, really be the case, it is doubly mean and paltry on their part, as Sydney Parkinson, *our* artist (who died in Mr. Banks's service), could never in any way have injured them.

His name is but twice mentioned in Dr. Hawkesworth's narrative of the first voyage: once, briefly, that of his death (which I have already quoted), and once shortly after their arrival at Tahiti, which is as follows:—"Our residence on shore would by no means have been disagreeable if we had not been incessantly tormented by the flies, which, among other mischief, made it almost impossible for Mr. Parkinson, Mr. Banks' natural history painter, to work; for they not only covered his subject so as that no part of the surface could be seen, but even ate the colour off the paper as fast as he could lay it on. We had recourse to mosquito-nets and fly-traps, which, though they made the inconvenience tolerable, were very far from removing it."<sup>272</sup>

In conclusion, I will merely say, as my firm belief, that our young disciple of nature and the first artist who visited these shores of New Zealand, and who so faithfully depicted what he saw with both his pencil and his pen, will yet have justice done him. When, in days to come, the history of New Zealand shall be fully and truthfully written, then the names of Cook and his gallant companions can not be forgotten; and prominently among that faithful and devoted band shall be found the name of our young artist, Sydney Parkinson.

"To live in hearts we leave behind,  
Is not to die ——."

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### 1877 Notes, chiefly historical, on the ancient Dog of the New Zealanders.

*Transactions of the New Zealand Institute* 10: 135-155.

[Read before the Hawke Bay Philosophical Institute, 8<sup>th</sup> October, 1877.]

FOR several years I have been aware of much error being commonly entertained concerning the original New Zealand dog, and I have been desirous of combatting it, as far as I could, by putting together what little I have learned respecting it, and the valuable testimonies yet extant of

271 WC: I find, from Dr. Sparrman's Voyage, that Mr. Sporing was a Swede.

272 WC: Cook's Voyages: p. 97, vol. II.

those of our earliest voyagers in these seas who frequently saw the animal. And this, I cannot help thinking, is the more needed just now; for, in the last volume of the "Transactions," there is a paper by Dr. Hector "On the remains of a dog found near White Cliffs, Taranaki," in which there are some statements and remarks concerning the New Zealand dog, which, I think, will be found incorrect—e.g., where Dr. Hector says:—"A few dogs of this primitive breed were known within the last twenty years," that "it is improbable that the same dogs were both highly-prized domestic pets and also used for food;" and "a bitch and full-grown pup were known for several years in the densely-wooded country between Waikawa and the Mataura plains, and did great damage among the flocks of sheep, etc., they were (at last) shot and presented to the Colonial Museum. Of the smaller specimen both skin and skeleton were taken to the British Museum by Sir G. Grey, and the skin of the mother was preserved here, and has been recognised by many old Maoris as a genuine *kuri* or ancient Maori dog. ... It is a large-bodied dog with slender limbs, large ears, etc."<sup>273</sup>

From an early period (in our modern times) I travelled pretty much in this North Island of New Zealand (particularly from 1834 to 1854), and that always on foot, zig-zagging about and visiting the Maori pas and villages in the interior and on the coast from Cook Straits to Cape Maria Van Diemen, and often crossing the island from sea to sea. I mention this, because I failed to see a single specimen of the true Maori dog, although I made every exertion to obtain one, offering, too, a high price. But they had become wholly extinct, or very nearly so, at least fifty years ago.

Notwithstanding, I have seen and possessed its hair; for, about the year 1835, I obtained an ancient, large, and handsome chief's staff and weapon of defence,<sup>274</sup> which was richly ornamented with carving, red feathers from under the wings of the parrot (*Nestor meridionalis*.) and the flowing hair of the old Maori dog. This hair was long, fine, and white, beautifully and securely done up in little queues having their ends firmly bound round with the finest spun flax where secured to the weapon, neatly covered with the [136] red feathers which were also singly and firmly fixed by being closely woven into a bit of strong flaxen cloth made especially for that purpose.

To a paper which I wrote on the *moa* in the year 1842, I added the following note:—"The New Zealand dog (*kuri*) is a small animal (somewhat resembling the variety known as the pricked-ear shepherd's cur) with erect ears and a flowing tail; its cry is a peculiar kind of whining howl, which, when in a state of domestication, it utters in concert at a signal given by its master, and it is most unpleasant. This variety of dog has, however, become very scarce in consequence of the continued introduction of other and larger varieties."<sup>275</sup> At that time I supposed that some of the many dogs I had seen in my early travels were of the old New Zealand or South Sea breed; but, since then, I have had good and ample reasons for believing I was mistaken. It was, however, quite possible, or even probable, that those dogs

273 WC: "Trans. N.Z. Inst." IX., 243, 244.

274 WC: Hani, Taiaha or Maipi, of the natives.

275 WC: Published in "Tasmanian Journal of Natural Science," vol. II., p. 97; and in "Annals of Natural History" (London), vol. XIV., p. 93.

alluded to by me in my old note quoted above, were mongrel half-breeds, or mixed descendants of the New Zealand and the introduced foreign dogs. And it is such dogs or others like them, but with still less of the true Maori breed in them, that have deceived later enquirers and the early settlers.

I may also mention that I have both seen and heard wild dogs in the forests and on their outskirts when travelling. Those, however, were dogs of a different kind—mongrels of various sorts—which had run away from their Maori masters, or had stayed behind in the woods when out pig-hunting with them, and so by degrees had become wild and increased in number. And as pigs were now becoming plentiful in the country, and their flesh (almost the natural food of the dog) easily obtained—while in the pas or villages those curs were often very badly off—it was no marvel that some of those dogs ran away and became wild. I remember particularly being beset on two or three occasions by tolerably large packs of those wild dogs, between the Ruahine mountain range and the Ruataniwha plains, in the years 1846–7. One of those packs were eleven in number, and being unarmed, save with my stick, I had some difficulty in keeping them off. I was alone too at the time, as my Maori baggage-bearers had lagged behind, and my own dog, which was much bigger, would not look at them, but kept behind me, which no doubt was one of the causes of their so persistently following me up and closing round me. I thought so much of it that I sent to England for double-barrelled pistols (revolvers then not being known—to me, at least) for a future occasion, as my regular travelling lay in that direction and over the mountain range. It was these wild dogs of that mongrel kind that did mischief to the flocks of the early settlers [137] in some places, and I believe that the two dogs shot near Mataura (mentioned by Dr. Hector) were of this description.

So long back as 1814–15, Mr. Nicholas, who visited New Zealand in company with the Rev. S. Marsden, made a similar error. He says:—“On our return from the place where we cut down the spars, we met one of the native dogs running about in a wild state. It was considerably larger than any of the dogs that we had seen domesticated among them, and bore a strong resemblance to the shepherd’s dog so well known in England. The moment it came in sight of us it set up a terrific howling, and never ceased the same baleful discord till we had left the place. There are numbers of dogs running wild in this manner through the different parts of the island, but I could not discover that they ever offered any injury to the inhabitants, who prize them very highly, as well for the sake of their flesh, which serves them for a delicious article of food, as for their hide and bones, which they convert to a variety of purposes, in the way of ornamental devices.”<sup>276</sup> Both Mr. Marsden and Mr. Nicholas, who spent some months together in New Zealand, and travelled too, pretty much—from Hokianga to the Thames—seemed never to have seen a single New Zealand dog of “the primitive breed.”

Captain Cook does not give many particulars concerning the South Sea dog in his voyages, although he had frequent opportunities of both seeing and eating it! Fortunately, however, he was during his first two voyages round the world accompanied by scientific men, who have left on record many interesting remarks respecting this animal. On

his first voyage, Cook was accompanied by Sir Joseph Banks, Dr. Solander (a Swedish naturalist), and a talented young artist named Sydney Parkinson; this last-named gentleman has given us several particulars in his separately-published journal of that first voyage. On his second voyage, Cook was accompanied by two eminent German naturalists, father and son (J.R. and G. Forster), and by Dr. Sparrman, another celebrated scientific Swede. And the two German gentlemen have also recorded much about our New Zealand dog, which they published in their large and separate works about their voyage.<sup>277</sup> On his third voyage Cook had with him Mr. Anderson, who was the surgeon on board of his ship, and who also acted as naturalist. From these independent accounts, written by persons who had ample opportunities of seeing and knowing all about our New Zealand dog, and who also understood what they were writing, I purpose making copious extracts, to [138] which I am the more inclined seeing the books themselves are very scarce and scarcely even known by name in the colony.

The South Sea dog was first seen by Captain Cook and his companions at Tahiti; and it is worthy of something more than a mere passing notice to bear in mind, that, while it was also found by them here in New Zealand, there were several intervening islands and groups at which Cook called where the dog was not found. Generally speaking, the natives of the various Polynesian isles he visited possessed three domestic animals—the pig, the dog, and the common poultry fowl; but few possessed all three: some had but two, and some (as New Zealand) only one. And yet it seems to me pretty evident that the natives of those isles in which one or two of those animals were wholly wanting, both knew and gave the right common name for them to Cook’s party when they saw the animal for the first time in his ship!

Captain Cook, on his first voyage anchored at Tahiti on the 10th April, 1769, and though he and his party were daily on shore and had strolled miles in the country to visit plantations and villages, and had also held daily markets for purchasing food, etc. of all kinds which the islanders brought for sale, yet his first entry concerning the South Sea dog was on the 20th of June! which, being in every respect peculiar, I may in part copy. Writing of Opereia, a great lady of the island, he says:—“As the most effectual means to bring about a reconciliation between us, she presented us with a hog and several other things, among which was a dog. We had lately learnt that these animals were esteemed by the Indians as more delicate food than their pork, and upon this occasion we determined to try the experiment. The dog, which was very fat, we consigned over to Tupaea, who undertook to perform the double office of butcher and cook. He killed him by holding his hands close over his mouth and nose, an operation which continued over a quarter of an hour. While this was doing an oven was made in the ground. ... The dog, being well cleaned and prepared, with the entrails and blood in cocoa-nut shells, was then placed in the oven: in about four hours it was opened and the dog taken out excellently baked, and we all agreed that he made a very good dish. The dogs which are here bred to be eaten taste no animal food, but are kept wholly upon bread-fruit, cocoa-nuts, yams, and other vegetables of the like kind. ... We all agreed that a South Sea dog was little inferior to an English lamb; their excellence is probably owing to their being kept up and fed wholly upon vegetables. ... Here are

276 WC: Nicholas’ “Narrative of a Voyage to New Zealand,” vol. II., p. 126.

277 WC: “Voyage round the World,” by G. Forster, 2 vols., 4to; “Observations made during a Voyage round the World,” by J.R. Forster, 4to.

no tame animals except hogs, dogs, and poultry, and these are by no means plentiful.”<sup>278</sup>

Sydney Parkinson, however, has an earlier entry than this, made in [139] April, which (in part) is also worth copying. He says:— “These people also are fond of dog’s-flesh, and reckon it delicious food, which we discovered by their bringing the leg of a dog roasted to sell. Mr. Banks ate a piece of it and admired it much. He went out immediately and bought one and gave it to some Indians to kill and dress it in their manner, which they did accordingly. … At night it was served up for supper, I ate a little of it, it had the taste of coarse beef, and a strong disagreeable smell; but Captain Cook, Mr. Banks, and Dr. Solander commended it highly, saying it was the sweetest meat they had ever tasted, but the rest of our people could not be prevailed on to eat any of it. We have invented a new dish, which is as much disliked by the natives as any of theirs is by us. Here is a species of rats, of which there are great numbers in this island. We caught some of them and had them fried. Most of the gentlemen in the bell-tent ate of them, and commended them much, and some of the inferior officers ate them in a morning for breakfast.” And, subsequently, on their passage thence to New Zealand, we have also this entry in his Journal:— “On the 27th August we killed a dog, and dressed him, which we brought from Ulietea (Raiatea): he was excessively fat, although he had eaten nothing while he had been on board”<sup>279</sup> (nearly twenty days).

On shore at Tolago Bay, Cook and his party first saw the New Zealand dog. Cook says:— “No tame animals were seen among the natives except dogs, which were very small and ugly.” And, again, on leaving Tolago, he says:— “We saw no four-footed animals, nor the appearance of any, either tame or wild, except dogs and rats, and these were very scarce; the people eat the dogs like our friends at Tahiti.”

Parkinson’s entry in his Journal at Tolago respecting the dog is:— “Of quadrupeds we saw no other than dogs, which were like those on the island of Tahiti, and of them but a few.” Another entry of his in his Journal respecting a dog, made in March, on leaving the south coasts of New Zealand (on the day they discovered those dangerous shoals called the “Traps”), is also worthy of notice. Parkinson says:— “This day the weather was more moderate than it had been for many days, and being one of the inferior officers’ birthday, it was celebrated by a peculiar kind of festival; a dog was killed that had been bred on board; the hind-quarters were roasted, and a pye was made of the fore-quarters, into the crust of which they put the fat; and of the viscera they made a haggis!” (We must remember that Parkinson was a Scotchman).

From George Forster (who, with his father, J.R. Forster, accompanied Cook on his second voyage), we gain good information respecting the New Zealand dog. He first saw them in Queen Charlotte Sound, before their [140] ship had visited Tahiti, and (speaking of some natives who visited their ship) he says:— “A good many dogs were observed in their canoes, which they seemed very fond of, and kept tied with a string round their middle; they were of a rough long-haired sort with pricked ears, and much resembled the common shepherd’s cur or Count Buffon’s *chien de berger*

(see his *Hist. Nat.*) They were of different colours—some spotted, some quite black, and others perfectly white. The food which these dogs receive is fish, or the same which their masters live on, who afterwards eat their flesh and employ the fur in various ornaments and dresses. They sold us several of these animals, among which the old ones coming into our possession became extremely sulky and refused to take any sustenance, but some young ones soon accustomed themselves to our provisions.”<sup>280</sup> And, again, shortly after, he says:— “While here we saw a large animal in the water about Grass Cove which seemed to be a sealion by its magnitude, but which we could not get a shot at. We had already discovered a small species of bats in the woods, so that the list of the indigenous quadrupeds in New Zealand was increased to five, including the domestic dog of the natives.” On leaving Cook Straits for Tahiti, Forster says:— “The officers, who could not yet relish their salt provisions after the refreshments of New Zealand, had ordered their black dog (mentioned p. 135)<sup>281</sup> to be killed, and sent the captain one-half of it; this day, therefore, we dined for the first time on a leg of it roasted, which tasted so exactly like mutton that it was absolutely undistinguishable. In our cold countries where animal food is so much used, and where to be carnivorous perhaps lies in the nature of men, or is indispensably necessary to the preservation of their health and strength, it is strange that there should exist a Jewish aversion to dogs’ flesh, when hogs, the most uncleanly of all animals, are eaten without scruple. … It may be objected that the exalted degree of instinct, which we observe in our dogs, inspires us with great unwillingness to kill and eat them. But it is owing to the time we spend on the education of dogs that they acquire those eminent qualities which attach them so much to us. … In New Zealand, and (according to former accounts of voyages) in the tropical isles of the South Sea, the dogs are the most stupid, dull animals imaginable, and do not seem to have the least advantage, in point of sagacity, over sheep, which are commonly made the [141] emblems of silliness. In New Zealand they are fed upon fish, in the tropical isles on vegetables, and both these diets may have served to alter their disposition. Education may perhaps likewise graft new instincts; the New Zealand dogs are fed on the remains of their masters’ meals; they eat the bones of other dogs, and the puppies become true cannibals from their birth. We had a young New Zealand puppy on board, which had certainly had no opportunity of tasting anything but the mother’s milk before we purchased it; however, it eagerly devoured a portion of the flesh and bones of the dog on which we dined to-day; while several others of the European breed, taken on board at the Cape, turned from it without touching it.” A little further on, he says:— “On the 4th August a young bitch of the terrier breed, taken on board at the Cape of Good Hope, brought ten young ones—one of which was dead. The New Zealand dog, mentioned above, which devoured the bones of the roasted dog, now fell upon the dead puppy, and ate of it with a ravenous appetite. This is a proof how far education may go in producing and

280 WC: Forster’s Voyage round the World, 4to. (London), 1677, vol. I., p. 219.

281 WC: At p. 135, Forster says:— “Here at Dusky Bay we had a young dog with us, which the officers had got at the Cape of Good Hope, and intended to try whether we could not train him up to the gun, but we had no sooner discharged the first fowling-piece than he ran into the woods and would not return, though we used all possible means to recover him.” I suppose they managed to do so before they left Dusky Bay.

278 WC: Cook’s Voyages, 4to. ed., 1773, vol. II., pp. 152, 196.

279 WC: S. Parkinson’s Journal of a Voyage to the South Seas, pp. 20, 81.

propagating new instincts in animals. European dogs are never fed on the meat of their own species, but rather seem to abhor it. The New Zealand dogs, in all likelihood, are trained up from their earliest age to eat the remains of their masters' meals; they are therefore used to feed upon fish, their own species, and perhaps human flesh; and what was only owing to habit at first may have become instinct by length of time. This was remarkable in our cannibal-dog, for he came on board so young that he could not have been weaned long enough to acquire a habit of devouring his own species, and much less of eating human flesh; however, one of our seamen having cut his finger, held it out to the dog, who fell too greedily, licked it, and then began to bite into it."

About a month after this, at Huahine, he says:— "We collected upwards of twenty hogs this day for large spike nails, and about a dozen of dogs, which seemed to be the most stupid animals of their kind, but were reckoned most excellent provision by the natives." At this island dogs were in great plenty. Forster says:— "Dr. Sparrman and myself in our walk saw great numbers of hogs, dogs, and fowls. The last roamed about at pleasure through the woods, and roosted on fruit trees; the hogs were likewise allowed to run about, but received regular portions of food, which were commonly distributed by old women. We observed one of them feeding a little pig with the sour fermented bread-fruit paste, called *mahei*. She held the pig with one hand, and offered it a tough pork-skin, but as soon as it opened the mouth to snap at it, she contrived to throw a handful of the sour paste in, which the little animal would not take without this stratagem. The dogs, in spite of their stupidity, were in high favour with all the women, who could not have nursed them with a more ridiculous affection if [142] they had really been ladies of fashion in Europe. We were witnesses of a remarkable instance of kindness, when we saw a middle-aged woman, whose breasts were full of milk, offering them to a little puppy which had been trained up to suck them. We were so much surprised at this sight that we could not help expressing our dislike of it; but she smiled at our observation, and added that she suffered little pigs to do the same service. Upon enquiry, however, we found that she had lost her child, and did her the justice among ourselves to acknowledge that this expedient was very innocent, and formerly practised in Europe. The dogs of all these islands were short, and their sizes vary from that of a lap-dog to the largest spaniel. Their head is broad, the snout pointed, the eyes very small, the ears upright, and their hair rather long, lank, hard, and of different colours, but most commonly white and brown. They seldom, if ever, barked, but howled sometimes, and were shy of strangers to a degree of aversion."

Again he says:— "The quantity of live stock which we had purchased during our stay there was amazing. ... The 'Resolution' alone had 209 live hogs, 30 dogs, and about 50 fowls on board when she sailed; and the 'Adventure' had not much less." And a little further on he says: — "The want of room occasioned the death of several hogs; and the obstinacy of the old dogs in refusing to take any sustenance deprived us of the greatest number of those animals." About a month after, when their ship was near to the coast of New Zealand, he says:— "Some of our people who examined the pump-well found there a dog, which they brought up on deck. This creature, which had been purchased at the island of Huahine, like many others of the same species, had obstinately refused to take any nourishment, and in all probability had lived ever since in that hole without the least

support of food for a space of thirty-nine or forty days. The whole body was reduced to a mere skeleton, the legs were contracted, and he voided blood at the anus. The torments in which this poor animal must have lived were a lesson to our people to purchase only young puppies of this race for the future, as the grown dogs constantly refused to eat on board."

The elder Forster in his work also says:— "The dogs of the South Sea isles are of a singular race; they mostly resemble the common cur, but have a prodigious large head, remarkably little eyes, prick-ears, long hair, and a short bushy tail. They are chiefly fed with fruit at the Society Isles; but in the low isles and New Zealand, where they are the only domestic animals, they live upon fish. They are exceedingly stupid, and seldom or never bark, only howl now and then; have the sense of smelling in a very low degree, and are lazy beyond measure; they are kept by the natives chiefly for the sake of their flesh, of which they are very fond, preferring it to pork. ... The New Zealanders continually living on fish are [143] glad when they can get a dog or bird to eat, which with them always is reckoned a dainty."<sup>282</sup>

Captain Cook in his Second Voyage, and while in New Zealand at anchor in Queen Charlotte Sound, incidentally remarks (when writing of the then proved cannibalism of the New Zealanders and its not being owing to their want of animal food):— "In every part of New Zealand where I have been, fish was in such plenty that the natives generally caught as much as served both themselves and us. They have also plenty of dogs; nor is there any want of wild-fowl, which they know very well how to kill." And again he says:— "While here we were visited by several strangers in four or five canoes, who brought with them fish and other articles, which they exchanged for cloth, etc. These newcomers took up their quarters in a cove near us; but very early the next morning moved off with six of our small water-casks, and with them all the people we found here on our arrival. ... They left behind them some of their dogs and the boar I had given them the day before, which I now took back again as I had not another."

Mr. Anderson, who was with Captain Cook on his third voyage, also states that their dogs were plentiful. He says:— "It is remarkable that in this extensive land there should not even be the traces of any quadruped, only excepting a few rats and a sort of fox-dog, which is a domestic animal with the New Zealanders. ... The natives sometimes, though rarely, find means to kill rails, penguins, and shags, which help to vary their diet. They also breed considerable numbers of their dogs (mentioned before) for food, but these cannot be considered as a principal article of diet; from whence we may conclude that, as there is not the least sign of cultivation of land,<sup>283</sup> they depend principally for their subsistence on the sea, which indeed is very bountiful in its supply."

Here, however, I would remark, that this is the only place in all his voyages and many visits to New Zealand in which Cook says, or hints, that the New Zealand dog was plentiful. In other parts of his voyages, as we have seen, he has said the contrary—that they were but few; and all the other

282 WC: Observations made during a Voyage Round the World, 4to., London, 1778, pp. 189 and 208.

283 WC: Mr. Anderson was only in the Middle Island of New Zealand.

gentlemen who had been with him in New Zealand also said the same. I think, therefore, that Captain Cook in this place speaks more rhetorically than in strict accordance with fact, being led thereto (in this sentence) in declaiming against the cannibalism of the natives. And so of the surgeon, Mr. Anderson; he had never been in New Zealand before, neither had he the opportunity of visiting the North Island (hence his erroneous remark of the New Zealanders having no cultivations!). [144] And now, when Captain Cook again revisited his old anchorage at Queen Charlotte Sound, where he was well known, and the natives, coming from all parts in their canoes to see him, took with them all their domestic dogs, simply because they could not possibly leave them at home; and hence, on Mr. Anderson seeing so many dogs with them in their canoes, he reasonably concluded there must be plenty more at home. This trait in their character, of always taking with them in their canoes their live domestic stock, has come down to comparatively modern times. I have seen plenty of it!

Dr. Sparrman, the Swedish naturalist (who, I think, was a better zoologist than the two Forsters, judging from what he has published in English of his travels and discoveries in Africa), who also accompanied Cook in his second voyage, has unfortunately not given us any particulars of this voyage to the South Seas, although I believe such were published by him at Stockholm in his own language—at least he intimates as much in his “Voyages.”<sup>284</sup> If so, perhaps some scientific gentleman of that country may ere long inform the colony of New Zealand of it.

Further: It may be also well to see to what uses the New Zealanders put their dogs besides that of using them for food. Captain Cook gives us very little information under this head, contenting himself with saying, (in his First Voyage) “that the people of Tolago Bay adorn their garments with the skins of their dogs, as we do ours with furs and ermine”—and, that “some others whom he fell in with in their canoes near Cape Brett, had weapons of stone and whalebone, and also the ribs of a whale carved, and adorned with tufts of dog’s hair.” Mr. Anderson also briefly says, “their work (of clothing flax-mats) is often ornamented with pieces of dog-skin; sometimes they cover their flax-mat with dog-skin, and that alone we have seen worn as a covering.” But, while Cook and Banks and Solander and Anderson are so provokingly concise, Parkinson and the two Forsters are much more profuse and clear.

Sydney Parkinson informs us early, like a true artist noticing the beautiful, that the first natives they saw in six canoes on leaving Poverty Bay “had garments wrapped about them made of a silky flax, each corner being ornamented with a piece of dog-skin.” And a little further on in his journal (in narrating that memorable adventure here in our waters of Hawke Bay, in which the New Zealanders kidnapped Tupaea’s lad, Taiota, which circumstance also gave the name to our southern cape), Parkinson says:—“An old man who sat in the stern” (of that kidnapping canoe) “had on a garment of some beast’s skin, with long hair, dark brown and white border, which we would have purchased but they were not willing to part with anything.” And again, shortly after, while at Mercury Bay, [145] says:—“In one of the canoes (which came from some distance to the ship) there was a very handsome young man, of whom I bought some things; he seemed by the variety of

his garments, which he sold one after another till he had but one left, to be a person of distinction among them; his last garment was an upper one, made of white and black dog-skin, which one of the lieutenants would have purchased, and offered him a large piece of cloth for it, which he swung down the stern by a rope into the canoe; but as soon as the young man had taken it, his companions paddled away as fast as possible, shouting and brandishing their weapons as if they had made a great prize; and, being ignorant of the power of our weapons, thought to have carried it off securely; but a musket was fired at them from the stern of the ship; the young man fell down immediately, and, it is probable, was mortally wounded, as we did not see him rise again. What a severe punishment of a crime committed, perhaps, ignorantly! The name of this unfortunate young man, we afterwards learned, was Te Riunui.” So again, while at the Bay of Islands (their next anchorage), he says:—“A canoe came into the bay that had eighty people in her, most of whom paddled; the chiefs wore garments of dog-skins, and were very much tattooed. ... We saw many plantations of the kumera, and some of the aute, or cloth trees” (*Morus papyrifera*). And in the fifteenth plate of his journal he gives “a New Zealand warrior in his proper dress,” in which his clothing-mat is a fine one, made of cloth woven from New Zealand flax (*Phormium*) within, and with the skins of black and white dogs alternately placed, chequer-fashion, without. Also, in Plate XVIII., the chiefs in the war-canoe are represented as so dressed; and in that ever admirable plate of a war canoe fully manned, with rowers paddling<sup>285</sup> (also taken by our artist), the chiefs are dressed in similar garments.

G. Forster, writing of the New Zealanders whom he saw at Queen Charlotte Sound (in Cook Straits), says:—“The form and colour of these people was almost entirely the same as that of the Dusky Bay people; their dress was likewise made in the same manner of the flax-plant, but never interwoven with feathers, in lieu of which they had bits of dog-skin at the four corners of their cloaks, which the others were not fortunate enough to possess.” Again he says:—“They sold us an apron, made of their close-wrought cloth, covered with red feathers, faced with white dog-skin, and ornamented with pieces of the ear-shell, which is said to be worn by the women in their dances.” And, shortly afterwards, speaking of a large canoe of strangers which came up to the ship, he says:—“Two people of a fine stature, one at the stern and another about the middle of the canoe, stood upright; the former had a perfect black cloak of the close-wrought [146] kind, patched in compartments with dog-skin. ... Among their dresses were several cloaks entirely lined with dog-skin, upon which they set a high value, and which indeed gave them a very comfortable appearance in the cold weather that now began to be felt.” And six months after, on their return to New Zealand from the Society and other islands, having made Cape Kidnappers and passed it, and when near to Black Head, their ship was visited and boarded by a chief<sup>286</sup> from the shore in his canoe; to him Captain Cook gave some pigs, fowls, and garden seeds; and the chief, in return, gave to

285 WC: Cook’s Voyages: first voyage, vol. III., Plate XVI.

286 WC: This chief, of whom a portrait is given in Cook’s Voyages, I have ascertained to be Tuanui, the ancestor of the present Henare Matua, of Porangahau, so well known among us. Tuanui put off from Pouerere, and Cook’s gifts to him were well remembered and circumstantially related. From some of those “garden seeds” sprang the “Maori cabbage” of the coast, which, thirty years ago, grew very thickly there and on to Palliser Bay, and often served me, when travelling, for breakfast.

Captain Cook "his *maipi*, or battle-axe,"<sup>287</sup> which was perfectly new, its head well carved, and ornamented with red parrot's feathers and white dog's hair."

J.R. Forster, in his "Observations," also observes:—"The New Zealanders employ the skins of dogs for their clothes, but merely for convenience, namely, to keep them warm. They also make use of their hair in various ornaments, especially to fringe their breast-plates in the Society Isles, and to face or even line the whole garment at New Zealand."<sup>288</sup>

It appears, therefore, from the united testimony of the first visitors to this country that the ancient New Zealand dog was much like those of Tahiti and other South Sea isles—that it was merely a domestic animal, small in size, with pointed nose, prick ears, and very little eyes; that it was dull, stupid, and ugly; that it was of various colours, white, black, brown, and parti-coloured, with lank long hair, and a short bushy tail; that it was fed on fish and refuse offal, and that it was quiet, lazy, and sullen, had little or no scent, and had no proper bark. Further, that its flesh was used by the New Zealanders for food, its skin for clothing, and its hair (particularly the long white hair of the tail) for ornamental purposes. And Captain Cook incidentally remarks on the great attachment of the New Zealanders to their dogs; for, in speaking of a native chief whom he had known, a father giving him his son to go away with him in his ship, he says:—"When about to sail, a boy of about ten years of age, named Kokoa, was presented to me by his own father, who I believe would have parted with his dog with far less indifference."<sup>289</sup>

It seems certain that the variety of dog found by them in New Zealand [147] was considered to be greatly inferior to those of the same breed they had seen in the other isles of the South Sea. It is not at all unlikely that this variety had degenerated through successive breeding-in-and-in,<sup>290</sup> and want of proper food. And it does not seem to have been eaten by our early voyagers, as the dogs of the other islands were, although, for want of fresh provisions, they scrupled not to eat rats and other "small gear." It is true that we have in their journals especial mention of four dogs having been killed for food at different times on board of their ship after leaving New Zealand; but all these it seems were obtained from other places. The dog on which the officers made such a feast when near the Traps off the South Cape of New Zealand, during their first voyage, and shortly after leaving this country, had been "bred on board." The dog which was killed on board for food in June, 1773, during their second voyage and soon after their leaving Cook Straits for Tahiti, was of the "Dutch" breed,<sup>291</sup> and very likely brought with

287 WC: Much like that one of mine, mentioned above, p. 135.

288 WC: Observations, pp. 189, 208.

289 WC: G. Forster also remarks on it, ante.

290 WC: Note.—To a superficial observer such must have been much the same in the tropical islands, but there is this great difference, viz., the New Zealanders were, from the earliest times, split up into small tribes, who were ever at deadly enmity; hence the circle of breeding a strictly domestic animal must have been very contracted and limited: it was not so in the islands, which were under kingly rule.

291 WC: For this I am indebted to Dr. Sparrman, whose entry in his Journal is so highly characteristic, that I copy it. He says,— "On the 7th June we sailed from New Zealand. ... After we had been at sea a few days we resolved upon killing a fat, though ugly Dutch dog, before the scurvy, together with the short commons of the ship, should render his flesh unfit for eating. Already used

them from the Cape of Good Hope. Again, after leaving New Zealand the third time on discovery, the dog which was killed on board when near Easter Island, to save Captain Cook's life, was an old ship dog, of which circumstance Captain Cook himself says,— "I was now taken violently ill so as to be confined to my bed, and it was several days before the most dangerous symptoms of my disorder were removed. ... When I began to recover, a favourite dog of Mr. Forster fell a sacrifice to my tender stomach. We had no other fresh meat whatever on board; and I could eat of this flesh, as well as broth made of it, when I could taste nothing else. Thus I received nourishment and strength from food which would have made most people in Europe sick, so true it is that necessity is governed by no law." And about a month after, when on their run from Easter Island to the Marquesas, another dog, which was also killed on board under similar circumstances, was from the Friendly Islands the year before. Of this dog G. Forster writes:—"Captain Cook himself was obliged [148] to keep his bed again, being afflicted with some alarming symptoms. ... My father ordered his Tahitian dog, the only one which still remained alive after our departure from the Friendly Islands, to be killed; it was cut into quarters which were served up to Captain Cook during several days, and gave him some nourishment, as he could not venture to taste the ship's provisions. By such small helps we succeeded in preserving a life upon which the success of the voyage in a great measure depended."

They succeeded, however, in taking alive to England one of the South Sea dogs on their return from their second voyage. And this dog had been a peculiar sufferer, for he (with others) had eaten of some very poisonous fish while in the tropics, and, after severe and long suffering, had nearly died; and he had also been repeatedly operated on, by inserting in his flesh poison scraped from the points of the poisoned arrows of the islanders, and yet he got over all! "and was brought alive to England"—the first and only one of his race!

I have already said, that at some of the Polynesian Islands, our early voyagers found no dogs. J.R. Forster says:—"In all the low islands they have dogs (a race with long white hair), but no hogs; at the Friendly Islands, and at Tanna (New Hebrides), they had hogs but no dogs; at the Marquesas, also, they had hogs but no dogs; while at New Caledonia they had neither hogs nor dogs. We gave at Amsterdam (Tongatapu) and at Tanna the first dogs; at New Zealand the first hogs and fowls; and at New Caledonia we left a couple of dogs, and another of pigs. They must formerly have had dogs at Amsterdam, because they knew the animal and were acquainted with its name, *kuri*, but have lost the species, as it should seem, by some accident." G. Forster's graphic description of this introduction of the dog at Tongatapu is worthy of notice. He says:—"Early the next morning Capt. Cook's friend, Ataka (the principal chief of the islands) came on board in one of the first canoes and breakfasted with us. ... After breakfast the captains and my father prepared to return to the shore with him; but just as he was going out of the cabin he happened to see a Tahitian dog running about the deck; at this sight he could not conceal his joy, but clapped his hands on his breast, and,

in our run between the Cape and New Zealand to put up with sheep that had died of the scurvy or other disorders, diseased hens and geese, we certainly were not now in a condition to turn up our noses at a roasted dog, which was really very palatable and well tasted." Sparrman's Voyage, 4to., London, 1786, p. 88.

turning to the captain, repeated the word *kuri* near twenty times. We were much surprised to hear that he knew the name of an animal which did not exist in his country, and made him a present of one of each sex, with which he went on shore in an ecstasy of joy. That the name of dogs should be familiar with a people who are not possessed of them seems to prove either that this knowledge has been propagated by tradition from their ancestors, who migrated hither from other islands and the continent, or that they have had dogs upon their island of which the race, by some accident, is [149] become extinct; or, lastly, that they still have an intercourse with other islands where these animals exist."

G. Forster also says of the natives of Mallicollo (one of the New Hebrides group):— "Hogs and common poultry are their domestic animals, to which we have added dogs by selling them a pair of puppies brought from the Society Islands. They received them with strong signs of extreme satisfaction; but as they called them hogs (*puaha*), we were convinced that they were entirely new to them."

And Capt. Cook, in his third voyage, states that at the island of Mangaia which he discovered they had no such animals as hogs and dogs—both which, however, they had heard of. This information he obtained from Mourua, a chief of that island, who visited his ship and conversed on board with the Tahitian native Omai, who was now returning to his own country from England in Cook's ship. Another interesting item Cook relates concerning this chief. He says:—"As soon as Mourua got out of the cabin, he happened to stumble over one of the goats. His curiosity now overcoming his fear, he stopped, looked at it, and asked Omai what bird this was, and not receiving an immediate answer from him, he repeated the question to some of the people upon deck." And a few days after, at the next island, Atiu, which Cook also discovered and visited, he found that they had hogs but no dogs, though they knew the name of it, and "were very desirous of obtaining a dog, of which animal this island could not boast, though its inhabitants knew that the race existed in other islands of their ocean." Of the people of this island Cook further says:—"Our visitors were conducted all over the ship. ... They were afraid to come near the cows and horses; nor did they form the least conception of their nature. But the sheep and goats did not surpass the limits of their ideas, for they gave us to understand that they knew them to be birds, ... The next day, soon after daybreak, we observed some canoes coming off to the ships, and one of them directed its course to the 'Resolution' (Cook's own ship). In it was a hog, with some plantains and cocoa-nuts, for which the people who brought them demanded a dog from us, and refused every other thing that we offered in exchange. One of our gentlemen on board happened to have a dog and a bitch, which were great nuisances in the ship, and might have been disposed of on this occasion for a purpose of real utility, by propagating a race of so useful an animal in this island. But their owner had no such views in making them the companions of his voyage. However, to gratify these people, Omai parted with a favourite dog he had brought from England, and with this acquisition they departed highly satisfied." [150]

It remains for me to show what I have been able to glean from the old New Zealanders, during the course of many years' residence and enquiry, concerning their ancient dog, now a creature of the past, equally so with the *moa* and the *kiore*, or New Zealand rat.

From the reliable old natives I gathered that their dog was of small size, and but few in number in a *pa* or village; that it

did not bark,<sup>292</sup> only howled plaintively at times; that it would not bite man; and that rats (the old edible rat) and birds were (in part) its food; that the owners of the dogs were greatly attached to them, gave them names, and prized and petted them (just as I have known the New Zealanders to do to their pigs and mongrel dogs forty years ago); that some of them were trained to seize ground-birds, such as *wekas* and *kiwis*, for their masters, and this was effected in great part through stratagem on the part of the native, who, when he went a bird-catching, would take his dog with him, always leading him securely tied by a cord, and, squatting down concealed in a fit place, held his dog, and imitating the cry of the bird he was in quest of, the bird came near, when the little dog was let go, and he ran and seized the bird, and held it or brought it to his master. Sometimes they lost their dogs, owing to its stupidity or laziness; but the true New Zealand dog never became wild in the woods. Sometimes they were stolen or killed, which of course always led to reprisals, and not unfrequently to murder and to war. Their loss or untimely death was lamented in songs and monodies, of which several are still extant. The white-haired dogs were greatly prized, especially if they had long-haired tails. Such were indeed objects of envy, and were fitting presents for a king! These dogs were taken the greatest possible care of; they slept in a house on clean mats, so that their precious tails should be kept as white as possible. Their tails were curiously and regularly shaved, and the hair preserved for ornamental use. This operation of shaving its tail was quite unique (and would take some time to describe), and was never performed by a common person.

The flesh of the dog was not only deemed a dainty but it was also a *tapu* (or sacred) dish. A dog was always killed for the priest to eat on performing certain *tapu* or religious ceremonies over the children of chiefs, and on other great and formal occasions; also as food for the *tohunga-taa-moko*, or tattooer, when operating on chiefs. Hence, as a large number were continually needed to meet these requirements, the increase was kept under. The skins, when flayed, were cleaned and stretched in a hollow frame, and then hung up in the wind to dry gradually, protected from the sun, rain, [151] and dew. Men attended to this duty, and also made the dog-skin garments, though the women wove the inner flax-cloth lining. Forster and others, as we have seen, always speak of the dog-skin as the lining of the men's clothing mats, or dresses; such, however, was not the case; they, at sea in their canoes, merely changed sides to them to keep off the saltwater; in fact these dog-skin dresses were manufactured reversible. Many a dog-skin mat has been made within the last fifty years of the skins of dogs of the small mongrel breed, before European clothing became common among the natives. Of these I have often seen the manufacture. I remember receiving an interesting account from an intelligent old native of the killing of one of those ancient dogs, and this was the last one I ever heard of. According to my informant it must have occurred about the year 1831–32 (as he lived with me in 1835,) and took place at Mangakahia on the river Wairoa, (which runs into Kaipara harbour) in the interior of the North Island. A great lady of that place had her chin, etc., tattooed after the old custom, and a dog was accordingly sought as *tapu* (sacred) food for the *tohunga*, or operator. There was but this one

292 WC: The New Zealander has different words to describe the cry of the old and of the new or more recent dog. The former is called and written *ao ao*, and *au au*; the latter, *tau tau*, and sometimes *haru*, and *pahu pahu*.

left in that neighbourhood, and it was almost taken by force from its owner (a petty chief) who cried and mourned greatly over his dog. My informant also partook of its flesh, being an assistant in the ceremonies. He, moreover, had also travelled extensively in this North Island, but had never seen another true New Zealand dog!

I am aware that Dr. Hector (speaking of those two dog-skins<sup>293</sup>) says that "they were recognised by some old natives as the skins of the genuine *kuri*, or ancient Maori dog." This native testimony, however, has little weight with me, i.e., in the way indicated by Dr. Hector, and that for several reasons: 1st. I doubt very much if those old natives had ever seen the genuine ancient Maori dog. 2nd. Their meaning (when speaking of those skins as that of a *kuri Maori*) may be very different from what Dr. Hector supposes. As I take it, the meaning there of the adjective *Maori* is very likely to be common and not indigenous, just what any common (plentiful) or cur-like mongrel dog would now be called by the natives, and which, indeed, we hear every day; e.g., as when a native says (speaking of pigs), "*he poaka Maori tonu koa!*" or of peaches, "*he pititi Maori;*" or of potatoes, "*he taewa Maori ano;*" or of guns (muskets), "*he pu Maori;*" or of vessels, "*he kaipuke Maori;*" he means only such as are of the common run or sort—ordinary, general, well-known; of course (in these cases) he never means indigenous or purely native. 3rd. Natives, for several years, have made great mistakes in speaking of animals or plants, especially of those which have become extinct or nearly so, or which have not been seen by them for many years. About four years ago, a gentleman [152] shot a bird in Hawke Bay; he showed it to the old natives around him, who all said it was a native bird; some said positively it was a *koreke* (a New Zealand quail); others, a *mohokura*, or a *mohopatahi* (two species of small rails). However, it was sent to me, and it proved to be the introduced Californian quail. I have long ago known that in all such matters the natives are not now to be depended on;<sup>294</sup> the oldest ones from their not having seen the animal or plant (in question) for many years, or perhaps not all; the younger ones from their never having known it!

The dog is mentioned in their oldest traditions and myths. Dogs were sometimes sacrificed, in the earliest times, to obtain the favour of the gods who were invoked; notably so, as is circumstantially related in the legend of the migration hither of the chief Turi and his party, who came from Hawaiki in the canoe Aotea, and landed on the west coast of this island. Turi is the (claimed) ancestor of the Whanganui tribes, and when on their voyage they had landed on a small island to refit and repair, a dog, whose name was Tangakakariki, was sacrificed with great formalities to appease the gods and to obtain them favourable winds. And this ancient Polynesian rite of sacrificing the dog may serve to explain two things respecting it which I have not yet referred to; the one took place at Tahiti, when Capt. Wallis, who discovered the island (two years before Cook visited it), was there; and it is thus related by him—but I should first mention that Captain Wallis was obliged to have two desperate engagements with the natives on his arrival, who courageously attacked his ship in great numbers; and it was

only after killing several of them, and "landing and destroying more than fifty canoes, many of which were sixty feet long," that they gave over, and peace was made. Captain Wallis says:—"At 2 p.m. (on the day of the last fight) about ten of the natives came out of the wood with green boughs in their hands, which they stuck up near the sea-side and retired. After this they brought several hogs with their legs tied, ... and some dogs with their fore-legs tied over their heads, ... also several bundles of cloth, and placing them on the beach called to us on board to take them away. At first we could not perfectly discover of what this peace-offering consisted. We guessed at the hogs and the cloth, but seeing the dogs, with their fore-legs appearing over the hinder part of the neck, rise up several times and run a little way in an erect posture, we took them for some strange unknown animal, and were very impatient to have a nearer view of them. The boat was therefore sent on shore; our people [153] brought off the hogs, but the dogs were turned loose, and with the cloth left behind. In return for the hogs, our people left some hatchets, nails, and other things, making signs to some of the Indians who were in sight to take them away with their cloth. After the boat had returned on board, the Indians brought down two more hogs, and called us to fetch them; the boat, therefore, returned and fetched off the two hogs, but still left the cloth, though the Indians made signs that we should take it. Our people reported that they had not touched any of the things they had left upon the beach for them, and somebody suggesting that they would not take our offering because we had not accepted their cloth, I gave orders that it should be fetched away. The event proved that the conjecture was true, for the moment the boat had taken the cloth on board, the Indians came down, and, with every possible demonstration of joy, carried away all I had sent them into the woods."<sup>295</sup> Captain Wallis remained there at anchor more than a month after this, on the best possible terms with the natives, buying largely of provisions but no dogs, of which animal he scarcely again writes. And Captain Cook (whom I have quoted<sup>296</sup>) states that after their great falling-out with that people, the chief lady (Opereia), in sending him the present by way of reconciliation, included in it a dog—which is also the first time Cook mentions the animal.

The other circumstance I have alluded to is mentioned by Mr. Banks in Cook's first voyage to Tahiti, who saw within the sacred *marae* (or paved court of their great temple) "several small stages which seemed to be a kind of altar, as upon these are placed provisions of all kinds as offerings to their gods ... and we found here the skulls of above fifty hogs, besides the skulls of a great number of dogs."

And while such sacrifices were rare, if not unknown, in New Zealand (where hogs were not and dogs but few), still we may see a remnant of them in a dog having always to be killed on great ceremonial observances as a sacred food for the officiating priest or *tohunga*.

A few named dogs take a prominent place in the very dawnings of history among the New Zealanders—before they even left Hawaiki—whether that place be a reality or a myth. It is related in their earliest legends that a dog belonging to a great chief named Houmaitawhiti, who lived at Hawaiki, having committed some trifling error, was killed and eaten by another chief of that place named Toitehuatahi. On the dog, whose name was Potakatawhiti,

293 WC: Vide ante.

294 WC: Hence the many errors in Maori names of plants, etc., given in the "New Zealand Institute Transactions" (passim) and in other modern publications, which seem to have been collected by any and everybody and set down at random, and so doing positive and lasting injury!

295 WC: Cook's Voyages: first voyage, vol. I., p. 451.

296 WC: Vide ante.

being missed by its owner, his sons went seeking the animal in the several villages in the neighbourhood, calling it, in their way, "Moï, moï." On their seeking it in the *pa* of Toitehuatahi, the dog, hearing their call, responded from within the stomach of Toi, "Au, [154] au," although the enraged chief kept his own hand tightly on his mouth, so that the dog's cry should not be heard by that outlet. The young men, however, hearing it, returned to their father and told him of it, and soon reprisals began, and a desolating war followed, which ended in a migration to New Zealand!

Another famed dog was in the canoe of another lot of emigrants from Hawaiki, led by the chief Manaia. On its way to New Zealand, the dog, scenting the land before it could be seen, and a dead whale that had been cast on shore, sprang overboard, and swam howling towards the land; the canoe followed all that evening and night, guided only by the cries of the dog, and so not only reached the land in safety, but also came in for a feast on the stranded whale,—and more good things afterwards.

Another strange dog legend is told of Irawaru, who was brother-in-law to the famed demigod Maui—the hero who, among several other equally strange adventures, fished up the North Island of New Zealand, and caused the sun to travel more reasonably through space for the benefit of man. The story is too long to relate here, but I may just say that Irawaru had displeased Maui, who, getting him unsuspectingly into his power, pulled his ears upwards and his back-bone out, so as to form a tail, and then transformed him into a dog! Cruelly sending his sister, on her enquiring after her husband in the evening, in ignorance of what had happened, to call him by the usual dog-call of "Moï, moï," which the poor newly-metamorphosed dog plaintively answered; on which the wife committed suicide by throwing herself into the sea. Hence, it is that Irawaru is said to be the father or precursor of all dogs.

In conclusion, I will merely add that it is my conviction that, hereafter, several of these things I have here brought forward will prove to be of service, trifling as some of them may at first sight appear to be, for, apart from the few concluding myths and legends, they are all facts. Facts, realities, respecting the ancient New Zealand dog (we have no more!). And these may tend towards elucidating the origin of the New Zealanders. And let it never be forgotten, particularly by such an institution as ours, that facts, faithfully recorded facts, however small in themselves, are not only stubborn things, but are sure to become useful. Science is still seeking to know of the origin of the New Zealanders, and of their so-called migrations hither; and here, in much of what I have compiled and written and laid before you is food for the reflective mind; indications which may yet prove of service. Further: it has often been thoughtlessly said, that because (in some parts of the north of this island) the dog was also called *pero* and *peropero*<sup>297</sup> by the natives, therefore it was introduced into this country by the Spaniards! [155] (*perro* being the Spanish word for dog). Here, I think, will be found quite enough to upset that far-fetched theory, seeing that the New Zealanders possessed their little South Sea dog ages before a Spanish keel ever floated on the waters of the South Pacific! But there are several other such theories abroad, equally without reasonable foundation.

297 WC: The New Zealanders have several common names for the dog, as kararehe, kirehe, kuri, pero, peropero, pape, and moi—though this last word is more properly the call for a dog.

## 1877 Notes on the Metamorphosis and Development of one of our large Butterflies (*Danais berenice*), or a closely-allied Species.

*Transactions of the New Zealand Institute* 10: 276-280.

[Read before the Hawke Bay Philosophical Institute, 13th August, 1877.]

ON the 25th January, 1875, Mr. Huntley, of Meeanee (a member of this society), sent me some insect larvæ, apparently of a butterfly, in a box. In [277] the letter which accompanied them, Mr. Huntley says:—"I send you some caterpillars gathered from 'cotton plants' in a neighbouring garden, grown from seed sown about two years ago. My attention was first drawn to them yesterday by a lady in the garden, she having gathered at least forty of them on her cherished row of 'cotton plants.' The most extraordinary thing seems to be that, although they made a large quantity of vegetable débris (more than a silk-worm), the leaves of the 'cotton plants' show no signs of having been eaten; and, further, there is nothing in the neighbourhood of the said plants upon which the caterpillars could possibly feed. These I send you I gathered myself from the plants—breaking off the twigs on which the caterpillars were clinging without disturbing them. I send also with them the important parts of the plant from which they were gathered. I shall be glad to know whether the caterpillars will eat what is in the box."

Unfortunately, when I received the box on the following day, the 26th, there was scarcely a vestige of vegetable matter remaining in it, save the woody fibrous parts of the small branches or twigs, and the ends (petioles) of a few hard leaf stalks, with a very small bit of a green capsule having the remains of soft spines,<sup>298</sup> somewhat resembling that of a young one of *Datura stramonium*; and also a large amount of "vegetable débris" (faeces). Of the four larvæ, however, three were alive and very active, apparently ravenously hungry. I immediately procured them leaves of various plants both indigenous and exotic—viz., sow thistle (*Sonchus oleraceus*), ngaio (*Myoporum laetum*), Cape gooseberry (*Physalis*), *Arthropodium cirratum*, *Dodonaea viscosa*, *Entelea arborescens*, *Coprosma lucida*, *Veronica* (species), *Acacia* (species), *Geranium*, roses, laurustinus, laburnum, flowering currant, *Cordyline*, and of clovers and grasses; but nothing I offered suited them—they would not eat.

These larvæ appeared to be of gregarious habit; two of them were much larger than their companion, the third, being about two inches long, and of pretty uniform thickness throughout, each having six fore-legs (veræ) and eight hind ones; the body smooth, transversely and alternately striped or banded with bright yellow lilac and white, each having in all eleven yellow stripes, while on each side of the yellow stripe was (1) white, (2) narrow lilac line, (3) white, (4) broad lilac band nearly a line in width, (5) white, (6) narrow lilac line, (7) white, (8) yellow; so that between each of the eleven yellow transverse bands, were seven other bands and lines of lilac and white, which were clearly distinguishable when the animal stretched itself out in crawling; the feet and belly of the larvæ were of a dark-blue almost a blue-blackish colour; the head was regularly striped across with

298 The capsule of the "swan plant" = "balloon cottonbush" = *Asclepias physocarpa/Gomphocarpus physocarpa*.

lilac and white; it had two antennæ or horns near its anterior end, which were also bluish-black and nine lines long, cylindrical, soft and flexible; it [278] had also two spinous processes near its tail, which were three lines long and soft. The larvae were all very active, and kept incessantly moving their long flexible antennæ, or feelers, in all directions; in this respect more resembling those of a wasp or hornet, or some irascible perfect insect.

On the 27th January, the biggest larva (No. 1) commenced spinning a kind of fine web, by which it suspended itself by the tail only, and with no silky band around its body, in a box with a glass top, in which I kept them. The second large one (No. 2) did the same on the following day, January 28th, while the small one (No. 3), which I saw was not fully matured (and was apparently passing an uncomfortable kind of life, through its not having any proper food), did not enter into its pupa state until the 31st of January, or early on the 1st of February.

No. 1 emerged from its pupa state on the 15th of February; No. 2 on February 16th; and No. 3 on February 18th, being also imperfectly developed and of smaller size; so that 19–20 days is the time taken for its transformation, from its entering into the pupa state and its emerging a perfect insect.

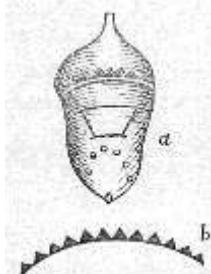
The pupa was an elegant object, being 10–11 lines long and 6 lines wide (at its widest part), smooth, and of a pale peacock-green colour, somewhat resembling in outline a small acorn in its cup, the stem of the cup (or calyx) being the produced point and the web by which it was suspended. Around the lower part of the pupa (as hanging) was a row of small circular dots, of a pale gold colour, having a metallic glistening appearance; while around the pupa in its widest part, and standing out a little from it, was a ridged crest or band, porcated towards the edge, which was crenulated; this, above, had also that metallic glistening appearance, while underneath, and seen from below, it was intensely black.

The accompanying wood-cut represents (a) the pupa, natural size, and (b) the ridged band, seen from below, magnified.

I have not unfrequently seen an ear-ring of green-stone worn by the Maoris of exactly the same hue of green as these pupæ.

But, if I was pleased with the elegant and unique appearance of the chrysalis, I was much more so with what I unexpectedly saw afterwards. I had watched them pretty narrowly, and when I found that No. 1 had quitted its pupa state on the 15th February, I watched No. 2 closely, and on the day after (the 16th) I was rewarded and gratified in seeing the perfect insect break forth into active life! I gazed with astonishment, and was almost spellbound—riveted, as it were, for half-an-hour; and never have I seen a more interesting living gorgeous spectacle—one which I can never forget. [279]

It broke through its pupa case at the top part, near the head and back of the imago, the case (in every instance) splitting longitudinally for two-thirds of its length into three segments, and then the insect moved its legs a little and got out of its prison, and held fast. At this time it appeared almost wingless, or with two tiny transversely-folded, squeezed-up plaits (like pigmy epaulettes) on its shoulders. These soon began to move, to descend, growing larger, and progressing downwards in an astonishing manner—soft, damp, limp, and wavy, their colours prismatically glistening like silk velvet, and at first falling in graceful folds, plaits,



and ripples, without the least approach to stiffness. As its wings were mysteriously and silently evolved and produced, and grew and descended, they also widened to their natural size, but not at first.

It seemed a truly mysterious sight to see these large wings growing so fast—evolving from nothing! by some occult hidden power. It was not, for instance, like water (a spring) welling forth from a mountain's side over green moss, for there was the hidden quantity or mass—here there was nothing behind, and yet it evolved and grew!

It took forty-five minutes, or very nearly an hour, before its wings attained to their full size, after which they very soon stiffened, and became rigid. Beautiful they still were in their symmetry, colours, and markings; but, *sic transit!* the surpassing glory—that gorgeous pristine excellence which had so spell-bound me, was, as an object, gone for ever—never, however, to be forgotten while memory remains.

I have seen, at various times, many plants and flowers unfolding, opening, bursting forth into bloom and beauty—have watched the evolution of some of our elegant tiny ferns, the rapid growth and change of some fungi, and the wonderful and beautiful birth of the ephemeral day-lily, when it unrolls its gorgeous petals to the morning sun; but all that I have seen of that description pales and fades before this—the birth, the amazingly rapid growth, and the beautiful and mysterious development of this butterfly.

Words fail to describe it, in its splendid and wonderful living reality—

“A thing of beauty is a joy for ever.”

About four years ago, I heard from one of our members (Mr. Meinertzhagen) that he had captured at Waimarama a butterfly of this species. On his communicating with me concerning it, I identified it as one I had more than once seen in my travels in New Zealand many years before. Shortly after that I saw a pair of them flying here on the hill-side, at Napier; other specimens were also caught much about the same time, one, or more, of which are now in the Museum of the Athenaeum in this town. And Mr. Meinertzhagen, and subsequently Mr. Huntley, found from the Maoris that they knew the insect well. [280]

Mr. R. W. Fereday, of Canterbury, has a paper on the Waimarama butterfly, in Vol. VI. of the “Transactions of the N.Z. Institute.” In that paper Mr. Fereday mentions two species (or varieties) *D. erippus* and *D. archippus*, specimens of both being in the Canterbury Museum. The former, *D. erippus*, having been sent from Melbourne; the latter, *D. archippus*, from San Francisco. Mr. Fereday doubts our New Zealand butterfly being distinct from *D. erippus*; at the same time he prefers giving it the specific name of *berenice*—which has superseded that of *erippus* in some published catalogues.

Mr. Fereday further says, that Mr. Laird, of Poureerere, had found some larvae of this insect on plants of *Gomphocarpus ovata* growing in his garden. It is not at all unlikely that the “cotton plants,” whence Mr. Huntley obtained his specimens, were a species of *Gomphocarpus*, from the scrap of a spinous capsule, or follicle, I found remaining in the box; but the leaves were long and lanceolate, as I subsequently found from Mr. Huntley. I know several species of *Gomphocarpus*, but none bearing the specific name of *ovata*.

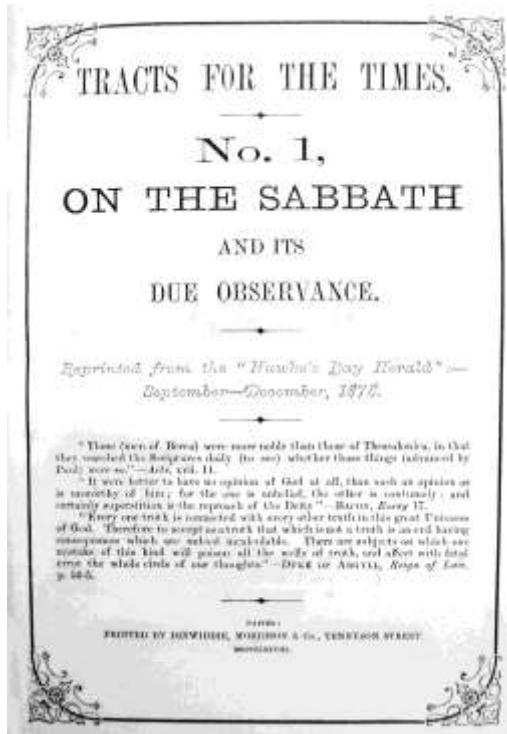
From a portion of a newspaper lately received from a friend, I find that our butterfly, or a species very nearly allied to it, was represented, in two very fair characteristic cuts, in the “Australian Sketcher,” of July 12, 1873, under the name of *Danais archippus*, on the authority of Professor McCoy of

Melbourne, where it had been lately captured, who says it is found very commonly in America from Canada to Brazil; but only of late years observed in North Australia, Queensland, and the northern parts of New South Wales, and more recently in Melbourne.

I venture, however, to doubt our insect being identical with the Australian one, as therein represented and described; there seems a slight difference in its markings, and a still greater one in its colour. Those differences, however, may be only sexual ones. Should it hereafter prove, on full examination and comparison of specimens of both sexes, to be distinct from both the Australian and American insects, I trust it will have, and retain, the name of *Danais novæ-zealandiae*.

### 1878 Tracts for the times; No. 1, On the Sabbath and its due observance.<sup>299</sup>

Napier, Dinwiddie, Morrison & Co. 46p.  
(Reprinted from *The Hawke's Bay Herald*.)



299 Colenso at his sarcastic best. Bishop Selwyn was of the Oxford Movement or Tractarianism, an affiliation of High Church Anglicans, most of whom were members of the University of Oxford, and who sought to demonstrate that the Church of England was a direct descendant of the Church established by the Apostles. It was also known as the Tractarian Movement after its series of publications "Tracts for the Times" (1833–1841). Colenso was, like Henry Williams, a liberal, reforming theologian, or "low church", and decidedly anti-Rome. He had published a series of short papers in 1858–1859 which he called "Tracts for the times", then the series of letters on which this booklet was based; then in 1879 he wrote to the editor of the *Herald* informing the public of the proposed contents of a second booklet ("Tracts for the times No. 2"), but despite repeatedly advertising it for sale at 1s 6d in the following months, he did not publish it.

"Ye shall know the truth, and the truth shall make you free."—JESUS.

"*Speak thou the TRUTH.* Let others fence,  
And trim their words for pay;  
In pleasant sunshine of pretence  
Let others bask their day.

*Guard thou the FACT:* though clouds of night  
Down on thy watch-tower stoop;  
Though thou shouls't see thine heart's delight  
Borne from thee by their swoop.

*Face thou the WIND.* Though safer seem  
In Shelter to abide,  
We were not made to sit and dream  
*The safe must first be tried.*"

### A FEW THOUGHTS AND FACTS CONCERNING "THE SABBATH" AND ITS DUE OBSERVANCE.

"I speak as to wise men, judge ye what I say."—Paul.

#### I. INTRODUCTORY.

In your issue of September 9th, you give a pretty full and clear account of a sermon preached the day before by the Rev. D. Sidey in the Presbyterian Church, Napier, on "Sabbath Observance." I trust, therefore, you will allow me the like courtesy of giving publicity to a few of my thoughts (or matured convictions) on this subject in your columns. I wish to make them public for several reasons. Before, however, that I briefly give those reasons, I would say,—that I have greatly desired to make known what I believe on this head in a series of lectures in Napier, admission free; where I should have more scope, and where what I should state could be taken down (by Mr Harding or some other equally competent writer), and, if approved of by my audience, printed: and did I belong to any one Public Denomination among us, I think I should have done so. Now my reasons for making known my convictions on this subject, are, (1) I believe, that whatever knowledge any man has gained, —whether by enquiry, experiment, travel, good luck, study, deep research, or experience, in whatever branch of Science or knowledge,—that he should not keep it locked-up in his own breast, but should seek to make it known to his fellow-men (2) especially if he reasonably believes such to be for their future welfare: (3) more particularly so, if (as in my own case) he should be nearing the allotted "three score years and ten" of man. To such a person and at such a time, the wise saying of the ancients is most appropriate and should act as a spur, "Whosoever thy hand findeth to do, do it with thy might; for there is no work nor device, nor knowledge, nor wisdom, in the grave, whither thou goest." (4) Further, I utterly disbelieve that unreasonable remark, which we so often hear, viz, that things of great—or of momentous—interest to mankind,—things popularly believed as more pertaining to the soul and to a future state of being, (generally lumped together as "religious matters,") should not be entered on in the columns of a newspaper! Why not? Can this be reasonably answered? For my own part I verily believe, that it would be far better for us all, if more of truth of science of reason and of *true* religion were taken up in all our papers in a proper spirit,—especially in those which are looked upon as family Papers. And so with theatres and theatrical performances; these should be sought to be raised from their present low standard (especially here in Napier), by the reasonable and intelligent and by the religious portions of the community

uniting and endeavoring to do so. For do what we may, man will have amusements as well as instruction,—such are natural to him and cannot be abolished. Let such, however, who oppose this view (and, no doubt, there are some who do so, as they believe, conscientiously, religiously,) let such just quietly ask themselves the question,—Where did Jesus, and, after him, his disciples, teach and make known their views and opinions? Was it not the streets and highways, in the desert and on the mountain, in the houses of the Pharisees and in the courts of the temple, in the village of Mary and Martha [3] and at the grave of Lazarus, by the pool of Siloam and the sea of Galilee, on land or on the water, on Mar's hill at Athens or in the school of Tyrannus at Ephesus,—wherever “a multitude” was found to listen, among whom were, sometimes, a few followers, but always plenty of enemies and scoffers. As then, so now. Principles have not altered, these are permanent; outward things, such as rules and methods, have, these are changing. Can it be reasonably supposed, that if the art—the great Science—of Printing, with all its advantages and blessings, was then known,—and if Jesus and his disciples knew how to write for the Press, that they would not have done so? Sure I am, that he,—one of the greatest of Reformers and a true Protestant,—would have done so gladly, if he could have found any Jewish Editor of a Paper willing to print his articles. Neither Jesus nor his followers would have entertained such a thought for a moment, as that his teachings—even the holiest and highest—could be lowered or contaminated by being published to the world in the columns of a newspaper. Such a notion was the very antagonistic opposite of all his and their teaching. And why? Because Great is truth and must prevail. Indeed he had early said to his followers “What ye hear in the ear” (from me, when we are alone, or it may be travelling together,) “proclaim upon the housetops,”—as an Oriental Muezzin or public crier;—or, in other and modern words,—Make known through the *Daily Press*.—

The great Jewish doctor Ebn Ezra said,—“God has given the Law to men of intelligence only, and those who have no intelligence have no Law.” (This saying involves a beautiful principle.) Most intelligent men have their own peculiar studies, their own particular knowledge; indeed, this, in a higher or lower degree, belongs to all craftsmen and trades. Hence, with our fathers, in order to secure it to their children, the 7 years apprenticeship. Now without boasting (all such ill becomes *me*,) I may perhaps be allowed to say, that there are a few (and only a few) things, (during a long and active life, of which I trust I know a little, viz.:—

1. The Polynesian language, and, in particular, the Maori dialect.
2. The Botany of New Zealand.
3. This subject of the Sabbath (and with it two or three other kindred matters).

And therefore it is, as I have said before, that I wish to make known what little I have gained on this head—of the Sabbath.

And if any one among us should still be inclined to ask, (1) How should I particularly know such a subject? my answer must be, Because I have for *many years* painfully and closely studied it, in all its bearings, and with the help of every aid. And if the further question should arise,—(2) Do you think you understand it better and know it more than the Rev. D. Sidey, or the Rev. Mr. Irvine, or the Rev. Messrs Oliver and Lockwood, or Archdeacon Williams, or even Bishop Stuart? My quiet answer must be (if I am to speak

what I believe to be the truth)—YES: (1) Because I have, as I have already said, made it my *particular* study,—having had ample means, in desire, time, books, and opportunity, which all those persons have not so largely possessed: (2) Because I am older: and (3) Because I am, (thank GOD!) set free from all Denominational and Ecclesiastical bias and prejudice,—rules, or “blinkers.” Did I not thus firmly believe I were an ass to undertake to write upon this subject.

And, lest any one should deem me to be boasting (a thing I hate), let me add,—Just look at our English Surgeons, or Physicians; they are all alike “Doctors” yet one has paid extra attention to diseases of the ear,—and is, therefore, an acknowledged Aurist; another to those of the eye,—and is, therefore, an Oculist; another to Midwifery,—and is, therefore, looked-up to in all such matters; now all these are alike “Doctors,” yet each possesses his own peculiar skill and knowledge in that *which* he made his particular branch of study. While, to the churchman, in addition, I would also say,—bear in mind the words of the Poet (not [4] David) in the 119 Psalm (vv. 99, 100),—“I am wiser than my enemies; I have more understanding than all my teachers.” On which verses Canon Perowne, in his new translation of the Psalms (2nd Edition), strikingly remarks,—“The teachers whom he has outstript may have been those whose disciple he once was;—or he may refer to authorized teachers, to whom he listened because they sat in Moses’ seat, though he felt that they had really nothing to teach him.” (*Verb. sap.*)

I purpose, then, prosecuting my subject thus:—

1. Introductory.
2. Historically.
3. Ecclesiastically.
4. Reasonably (including, (1) Theologically, and (2) Humanly).
5. Concluding Remarks.

I cannot close this first, or Introductory part of my subject better, than in the glowing words of a true man and a great modern writer—EMERSON: whose name, I am happy in knowing, will be perpetuated here in Napier. He says,—“There is a persuasion in the soul of man that he is here for cause, that he was put down in this place by the Creator to do the work for which He inspires him, that thus he is an overmatch for all antagonists that could combine against him.” — Napoleon said well, “My hand is immediately connected with my head;” but the sacred courage is connected with the heart. The head is a half, a fraction, until it is enlarged and inspired by the moral sentiment. For it is not the means on which we draw, as health or wealth, practical skill or dexterous talent, or multitudes of followers, that count, but the aims only. The aim reacts back on the means. A great aim aggrandises the means. The meal and water that are the commissariat of the *forlorn hope* that stake their lives to defend the pass are sacred as the Holy Grail, or as if one had eyes to see in chemistry the fuel that is rushing to feed the Sun.”

## II. HISTORICALLY.

(*Before the Birth of Christ.*)

HERE, one great difficulty presents itself at the very threshold, namely, the popular opinion respecting the Bible. I call it, the popular opinion; and yet it may not quite amount to that. Be this as it may, it is that notion, that the Bible is peculiarly one book,—comprising an entirety or

complete whole in itself; that as such it is also the only Revelation, or direct Word of God to man. I can very well understand how ready some good folks are to bristle up, and to shew fight, at even the bare mention of a doubt of such being the case; and I can make every allowance for them, aye, and sympathise with them,—for I once so believed and so acted myself. And I did not readily give in, either,—until long (oh! very long) and painful and prayerful research and study brought me to see clearly that such a position was no longer tenable,—*could not, in fact, be any longer truthfully held or supported*,—and so I was obliged to give in, after contesting every position inch by inch. But have I, as a Christian, really lost any truth,—any good thing, thereby? No, by no means; very far from it, as I hope to shew in the end. This much, however, in passing, I will here say, that the Sacred Volume,—notwithstanding its unhistorical character, its variance with scientific certainties, its discrepancies, and contradictions,—the more it is studied the more Divine it seems, the more full of real support and solid comfort for the soul of man.

I must, however, remind my reasonable and thoughtful readers,—to consider (briefly) a few needful facts respecting the Bible.—

(1) It is a volume containing writings made by many and different writers [5] extending over a period of several hundred years.

(2) That many of the several separate books themselves were not written by a single individual, but by several persons, and that, too, from time to time; and that the writers of many of those books are wholly unknown.

(3) That, in addition to what Protestants know as the Old and the New Testaments, there are also the ancient books called (by them) “the Apocrypha,”—in which, however, are to be found some Divine passages, as much so as any we read in the Canonical writings; which are received alike with the other books by both the extensive Roman and Greek Christian Churches,—comprising, by far, the larger part of Christendom.

(4) That at the time of the Jewish captivity under Nebuchadnezzar (600 years before Christ), their sacred books had been burnt, and that thus the Jews account for their reproduction.—

This tradition stands recorded in the second book of Esdras, where Esdras, or Ezra, is introduced as saying, “*Thy Law is burnt*: therefore no man knoweth the things that are done of Thee, or the works that shall begin. But, if I have found grace before Thee, send the Holy Ghost into me, and I shall write all that hath been done in the world since the beginning, which were written in Thy Law; that men may find Thy path, and that they, which live in the latter days, may live.” And Ezra further says that his prayer was heard, and he received a command to retire into a private place with five men, “ready to write swiftly, and many tables of box-wood to write upon.—And they sat forty days, and they wrote in the day what he told them, and at night they ate bread.”

In this way Ezra is supposed, in the tradition of the Jews of that age, to have recovered the very identical words of the Pentateuch. And several of the ancient fathers of the Early Christian Church seemed to have fully believed this strange story. Thus Clement of Alexandria says

“When the Scriptures had been destroyed in the captivity of Nebuchadnezzar, in the time of Artaxerxes the King of the

Persians, Esdras the priest, having become inspired, renewed again and produced prophetically all the ancient Scriptures.”—

And Irenaeus says:—

“In the time of Artaxerxes, the King of the Persians, He inspired Eadras the priest to set in order again all the words of the former prophets, and restore to the people the legislation by Moses.”

And Jerome says:—

“Whether you choose to say that Moses was the author of the Pentateuch, or Esdras the renewer of the work, I make no objection.”

But the truth is, that we know nothing certainly about this. Here I will briefly quote from The Bible and its Interpreters, by the learned Dr. Irons, Prebendary of St. Paul’s, London; he says, “There is no proof that Ezra did it.” And even if we allow that Ezra did all which is ascribed to him, yet then, as Dr. Irons justly observes,—“It is on the gifts and inspiration of the transcribers in Ezra’s day, that we are really depending,—gifts and inspiration, which yet are a mere hypothesis, of which the possessors tell us no single word! And before Ezra’s day we are thus owning, unmistakeably, that the literary history of the Old Testament is lost! Let all those, who would identify this with God’s entire Revelation, see to what they have brought us?”

But, I would say, let us not do this. For, while I agree entirely with this author—that “a more hopeless, carnal, and eventually sceptical position, it is impossible to conceive,” than that “which identifies the Written Word with God’s only Revelation” of Himself to man,—and because I believe it to be so unsound and dangerous,—I will do my best, God helping me, to show you “a more excellent way.”

To return:—the first direct mention of the Sabbath in the Old Testament as a rule to man, is at the giving of the Manna to the Israelites in the Wilderness (Ex. 16.). Shortly after, however, we have it more fully stated as a Law among the ten Commandments given on Mount Sinai (Ex. 20). And here let me call your particular [6] attention to *the reason* assigned for so keeping the Sabbath:—“For in six days the Lord made heaven and earth, the sea and all that in them is, and rested the seventh day: *therefore* the Lord blessed the seventh day and hallowed it.” This, however, is very differently given in Deuteronomy (5. 15).—“And remember that thou wast a servant in the land of Egypt, and that the Lord thy God brought thee out thence through a mighty hand and by a stretched-out arm: *therefore* the Lord thy God commanded thee to keep the Sabbath-day.” And note further, that *both* statements are equally said to be the very words of God, and to have been engraved by Him in stone.

How is this great discrepancy to be reasonably accounted for?

Did Moses really write those 5 Books called the Pentateuch?

In our *English* translation they are termed the first (second, or third, &c.) Book of Moses, but that is an addition, such not being in the original. Such, however, may mean *about Moses*; just as the Books of Samuel, Job, Esther, &c., are about them, and were not written by them.

It is highly doubtful if the first four were written by Moses; and it is all but absolutely certain the 5th. (or Deuteronomy) was never written by him.

If Moses wrote the *first* account of the giving of the Law on Mount Sinai (in Exodus), is it possible that he could have forgotten what was then said when he wrote the *second* account (in Deuteronomy)? and so set down contrary words, and say, that God uttered them? If Moses did not forget, could he have dared to alter them? And, if he either forgot, or dared to alter,—what becomes of the so-called inspiration, the Infallibility, the entire truthfulness of the story? But if, as I have said above, the book of Deuteronomy was *not* written by Moses, then we can see clearly how another person, writing some hundreds of years after, could thus write: *provided that he did not himself regard the 10 Commandments in their original form as Mosaic and Divine and therefore inexpressibly holy*; for if he did, then he could no more have dared to change them than Moses himself. Moreover, if such a Commandment concerning the Sabbath was so given—amid earthquakes and thunderings and lightnings—and with the penalty of death recorded for doing any work, or even kindling a fire in any house (Ex. 31. 15) on the Sabbath-day, how comes it to pass that the Sabbath was not observed by the Jews? Especially with that dreadful story in Numbers (15), of the man found gathering sticks in the wilderness on the Sabbath-day having been put to death, and that sentence too as being immediately pronounced by the Lord!

But who can possibly believe that such a command as that ever proceeded from the Ever-Blessed God? a command, too, which would appear to have been powerless to prevent the Evil, which it proposed to cure,—which did not hinder the people at large from defiling the Sabbath with pollutions infinitely worse than that of gathering a few sticks for a fire,—“Your new moons and Sabbaths I cannot away with: *Your hands are full of blood.*” (Is. 1.) And what a noble work is that of Modern Biblical Criticism, which enables us to regard the Bible with true reverence, as containing the words of a Divine Revelation, without therefore maintaining that it has been supernaturally protected from all the defects and faults of human productions,—which relieves the character of God our Heavenly Father, from the dark stains, which such narratives as these must in any reflecting mind attach to it, if believed to be divinely-guaranteed statements of infallible truth! For here, in this very story we have a proof that it was not written by Moses.—The words are, “*While the children of Israel were in the wilderness,*”—how could those words be written by Moses, who never came out of the wilderness, who “died there in the land of Moab”?

But now, with respect to the Jewish Sabbath, it is very noticeable that, except in the Pentateuch itself, where the laws are thickly laid down for its observance, as an express Divine Institution, there are no signs of its having ever been kept [7] with strictness, or of any attempt having been made, by the most pious Kings or prophets, to enforce the keeping of it, before the time of King Josiah,—that is shortly before the Babylonish Captivity. On the contrary, in the very few passages in which the Sabbath is mentioned at all, it is put upon the same level as the day of the “new moon.” Not at all as having any peculiar honour,—as having been enjoined by express Divine authority amidst the terrors of Sinai. Thus, in the affecting story of Elisha and the Shunammite mother, whose child was dead, she determines to “run to the man of God, and come again.”

Upon which her husband says, “Wherefore wilt thou go to him to-day? It is neither *New Moon* nor Sabbath.” (From which story it may also be fairly inferred, that they commonly *rode* on the Sabbath.) So, also, the prophet Isaiah (i. 13, 15); Amos (viii. 4, 5); and Hosea (ii. 11.) Again, in the book of Chronicles,—a book written after the return of the Jews from the Captivity, (or 1000 years after Moses,)—brief mention is made of the Sabbath but always with the new moons and feasts; but great care must be exercised in using this book. Here I will briefly quote from Dr. Irons:—“The writer of the book of Chronicles gives us certain statements of the authorities referred to for the history of his people. But he does not say who was authorised to draw up the summaries of the story, which now are called ‘Books of Samuel,’ and ‘Kings,’ or his own ‘Chronicles.’ In fact, the writings of Samuel, Nathan, Gad, Ahija, Shemaiah, Iddo, Azariah, Hanani, Jehu, Elijah, and Chosai, and the Chronicles of Isaiah and others (all referred to as the literary basis of the National History), *have perished without exception.* The outlines which survive are by another hand and *have been drawn with a design of their own.* Nothing can exceed the plainness, with which the sacred author of the Chronicles acknowledges that *they, who seek mere History, must look for it elsewhere.* He is writing for another purpose.... The results are simply and undeniably these—that after the Jewish Captivity in Babylon (within a hundred years of that event) the merely *historical*, as distinct from the *sacred*, records of their nation—having no doubt been examined—*disappear*, and the *religious Books*, called Samuel, Kings, and Chronicles, are *found in their present form.*”

The two books of Chronicles, in a very great part of their contents, are not historically true,—they are written, as Dr. Irons says, “with a design of their own,” and that “design” is, evidently, to blot out as much as possible from the earlier history of the people, as it is written in the older Books of Samuel and Kings, the plain signs which those Books exhibit, that the Law of Moses—the laws of the Pentateuch—were habitually disregarded by the very best of the Kings of Judah, and to represent them as in force all along. Now this fact—that of the unhistorical character of the narrative in the Chronicles—is one of the greatest importance, therefore it is that I so dwell upon it. For you cannot possibly acquire a clear idea of the real History of Israel, (from the time of the conquest of Canaan down to the Captivity,) unless your minds are disabused of the traditional notion, as to the infallible accuracy of every line and letter in the History of the Chronicler, while yet his statements repeatedly contradict the statements of the older Books and even his own. You may easily satisfy yourselves on this point, by merely reading your Bible, carefully, with open eyes and clear understandings, employing a Bible with the marginal references and making use of them.

You will find that the Chronicler never gives a hint of David’s sins of adultery and murder,—nor of Solomon’s taking many heathen wives, and of their turning away his heart from the Living God: he says nothing of Solomon going after “Ashtaroth, the goddess of the Zidonians, and after Milcom, the abomination of the Ammonites,”—of his “building a high place for Chemosh, the abomination of Moab, in the hill that is before Jerusalem, and for Molech, the abomination of the children of Ammon.”

Again, the writer of the Book of Kings tolls us that “Abijah, the sun of Rehoboam, [8] walked in all the sins of his father, which he had done before him, and his heart was not perfect

with the Lord his God" (1 K 15),—and mentions only that "there was war between Abijah and Jeroboam" (v. 7);—but the Chronicler, writing centuries afterwards, says not a word about Abijah's wickedness, but makes him lead out a host of "400,000 chosen men" against 800,000 chosen men of Jeroboam, mighty men of valour." Abijah is then described (by the Chronicler,) as addressing this immense host of 800,000 men in most pious language, declaring that in Judah the Law was strictly obeyed;—and calling on them not to fight against God. However, they did fight, and in this one battle, we are told, Abijah's 400,000 warriors slew of Jeroboam's 800,000,— "five hundred thousand chosen men." (2 Chron. xiii.)

Now let me here call your attention (1) to the actual size of these two petty kingdoms, which, together, formed what is called the Holy Land. (As many, I know, have not yet considered this.) Those two kingdoms together, were not so large as the small tract of country extending from Napier to Cape Palliser, and from the Ruahine mountain range to the sea. While that of Judah, alone could be comprised between Napier and Takapau. (2) The total loss of the Allied army in the great and memorable battle of Waterloo, including "British, Germans, Hanoverians, Brunswickers, Prussians, and Belgians," was 4,172 men. (From *Alison.*)

Thus, once more, the Chronicler tells us, (1 ch. xxiii.) that when David was old the Levites were numbered, 38,000,— of whom 24,000 were to set forward the work of the House of Jehovah, 6,000 were officers and judges, 4,000 were gatekeepers, 4,000 choristers;—that is, he reckons 24,000 ministering Levites, 4,000 gatekeepers, and 4,000 choristers, for a small tent, probably not so large as one of our own Napier churches, just exactly half the size of the Temple of Solomon, and might hold, if crowded, perhaps, 300 people! He also tells us of *one* Levite family, in which there were "2700 chief fathers and 1,700 officers"— altogether 4,400 rulers.—out of one single family of the tribe of Levi! Possibly the key to all this (and much more of the same kind) is, that *he was a Levite himself*:—there is a great deal in Chronicles in support of this.

But I forbear. I have brought forward all this (long known to me), to show you how the truth stands in respect to the Books of Chronicles; and you will find much more of the same kind for yourselves, *if you will only thoughtfully read the narrative and compare it with what is written in other places.*

In the after times however of the history of Israel, we find the later prophets—Jeremiah, Ezekiel, and the later Isaiah— laying great stress upon the observance of the Sabbath as the sign of Jehovah's covenant with Israel; and so, too, in the Book of Nehemiah, written after the return from the Captivity, we find mention made of Jehovah having "made known unto them his holy Sabbath," and of strenuous efforts being made to prevent the desecration of the Sabbath by labor and traffic. (N. ix., xiii.)

[Here I must remind my readers that this "later Isaiah," (or the unknown prophet, whoever he was that wrote the last 27 chapters of the present Book of Isaiah,) must not be confounded with the older and former Isaiah, who wrote the earlier portion of the Book which goes by his name; the former was contemporary with Hezekiah (B.C. 710): the later Isaiah lived some 200 years after,—after the destruction of Jerusalem and the Temple by Nebuchadnezzar; (as a proof, see Is. 64, 10, 11: 63, 18 :)

and it is from him that we have some of the most beautiful utterances in the Old Testament.]

That very ancient Book of the Jews, the Talmud, (in general use long before the birth of Jesus,) contains, as might be expected, several excellent remarks concerning the Sabbath, together with many rules for its observance. The learned and unprejudiced modern *Jew* Commentator Dr. Kalisch, says,— "The Talmud distinguishes 39 chief labours which are forbidden on the Sabbath; but in cases of illness, and in any, even the remotest, danger, a deviation from the rigorous precepts is permitted; and in general [9] were those principles followed,— 'The Sabbath is delivered into your hand, not you into the hand of the Sabbath.' and, 'The least danger of life invalidates the Sabbath.'" (Talmud, *Mishna Joma.*) Further, Dr. Kalisch says, "that the Sabbath was a day of holy assembly; but it was also a day of recreation of joy and of convivial meetings." (Pointing out Luke 14. 1, 12.) "Fasting was expressly forbidden."

Having mentioned the *Talmud*, and given the foregoing striking quotation from it, (which will serve to remind my readers of Mark ii. 27, 28,) and as the Book itself is so very little known among us, I am tempted to make a few more quotations, which may also serve a similar purpose.—

The Talmud denounces swearing, or oath-taking, and recommends "a simple Yes Yes, or No."

"Do not to others what you would not have others do to you."

"A single light answers as well for a hundred men as for one."

"The place honours not the man, 'tis the man who gives honour to the place."

"Deem nothing impossible."

"Man sees the mote in his neighbour's eye, but knows not of the beam in his own."

"First learn, and then teach."

"Charity is greater than all,—is more than sacrifices."

"Who gives charity (alms) in secret is greater than Moses."

"The Bible was given us to establish peace."

"He who raises his hand against his fellow in a passion is a sinner."

"God allows the poor to be with us ever, that the opportunities for doing good may never fail."

"When our ancestors in the wilderness were saved from death by gazing upon the brazen serpent, it was not the serpent which killed or preserved. it was the trustful appeal to the Father in heaven."

"The men of Nineveh believed in God's mercy, and though the decree had been pronounced against them, yet they repented; therefore, neither sack-cloth nor fasting will gain forgiveness, but repentance of the heart and good deeds."

There are also numerous parables, and similar stories, strongly reminding one of those later ones of the New Testament.

In these later times, then, of the history of Israel, the Sabbath was kept with great strictness, by some devout men, as Nehemiah, and by others who, like the Pharisees, made a great profession of religion, but substituted too often outward observances like this for the inward service of the heart which God delights in. But in earlier days we find no trace of this spirit,—no sign that the Sabbath was put on a higher level than the New Moon. And this fact is accounted for, when we find that the first copy of the Decalogue, as well as the second, dates from a late age in the history of

Judah,—that it was never really binding on the Jews, as the traditional view supposes, as having been uttered by the Divine Voice, under a tremendous sanction, from the top of Sinai. Let us now consider what Nature also teaches us as to the duty or the wisdom of setting apart one day in seven.— And here I will first quote the words of that eminent Jewish scholar upon this point (Dr Kalisch, already mentioned, in his Commentary on Genesis):— “The simple and obvious explanation of the holiness of the number seven is, that the Ancient Israelites, as most of the Eastern nations, counted originally their months after the course of the Moon, which renews itself in four quarters of seven days each, and after this time assumes a new phase These periodical and extraordinary changes of the Moon produced a powerful impression upon the susceptible minds of the ancient nations: they excited them to reflections on this wonderful phenomenon, and every thing connected with it assumed in their eyes a peculiar significance. Hence the day of the *New Moon* was generally celebrated with some distinguishing solemnity, which, like all festivals, is regulated and fixed in the Mosaic Law; and the New Moon is, in the Old Testament, frequently [10] mentioned with the Sabbath.... But the division of the week into seven days was known and adopted by the most different nations, as the Assyrians, Arabs, Indians, Peruvians, (but not the Persians,) and many African and American tribes, which never came into intercourse with the Israelites, and later by the Greeks and Romans, who followed the Egyptians. We must therefore recognise therein, not an exclusively theocratical, but a general astronomical arrangement, which offered itself to the simplest planetary observation of every people.”

And Similarly, the ancient Talmud:—“In ancient times the men called ‘wise’ placed their faith and dependence upon the planets They divided these into seven, apportioning one to each day of the week. Some nations selected for their greatest god the sun, other nations the moon, and so on, and prayed to them, and worshipped them. They knew not that the planets moved and changed according to the course of nature, established by the Most High, a course which he might change according to His will, and into their ignorant ideas many of the Israelites had entered. Therefore, as they considered the planets as seven, God made many other things depending on that number, to show that as he made them, so had He made the planets. The seventh day of the week he made the Sabbath.”

In this way, then, the seven days’ week appears to have originated, among so many different nations in all parts of the Earth; by their common observation of the time, which it takes for the moon to pass from one of her chief phases to another, which interval is to all appearance seven days, though in reality a fraction more. In this way originating the seven-days’ week may justly be said to be an institution of the Law of Nature, and therefore one of Divine appointment. We no longer suppose that the Creation of the work took place in six days, with successive outward Divine utterances, as described in the first chapter of Genesis. Yet for all this, and notwithstanding that the Hebrew writer may have held mistaken notions about the time, manner, order, of the creation,—about the nature, magnitude, and distances of the Sun, Moon, and Stars,—he discerned the eternal underlying truth when he wrote, “And God said,”—“said,” not with outward audible utterance, on the fourth day of the Creation, but said in the depth of the Divine Mind, conceived in eternity as a Divine Idea, and expressed in time by that Divine Word, “by which all things were made,”—“Let there be lights in the firmament of the

heaven, to divide the day from the night, and let them be for signs and for seasons and for days and for years; and let them be for lights in the firmament of the heaven to give light upon the earth and it was so.” The day, then, is given to us by Nature, and therefore by Nature’s God, for labour, and the night for rest. And so is it with regard to the week and the weekly rest.

Further: it is true the lunar month, in which the Moon goes through her different phases, consists really of 29 days, so that from one chief phase to another would be a fraction more than seven days. Still with rude nations this difference would not be noticed. And, “that the seven days’ week really originated among as many different nations in all parts of the earth from watching the phases of the Moon, is indicated by the fact that the Peruvians not only divide the lunar month into halves and quarters by the Moon’s phases, but they have also a period of nine days, the approximate third part of a lunation, thus showing the common origin of both, and so the Romans had the ninth day of the month, which was a holiday even for slaves, and the Greek lunar month, consisting alternately of 29 and 30 days, was divided into sets of ten days. (Prof. Baden Powell, *Christianity without Judaism.*)

So, also, Dr. Hessey in his Bampton Lectures delivered before the University of Oxford; he says:— “To what, it may be asked, is the division of time by weeks of seven days to be traced? I answer, without hesitation, to man’s observation of those ‘lights in the firmament of heaven,’ which God placed there to divide the day from the night,’ and of which He said further, [11] ‘Let them be for signs, and for seasons, and for days and years.’ It required *no special revelation* to direct men to these, as convenient indicators of time. The course of the Moon, and especially the appearance of the New Moon, would suggest a division, roughly stated, of months of twenty eight days. This, perhaps, would be the first and most prevalent division. It certainly was all but a universal one; for it is found even where weeks were alone unknown, and where they are still unknown,—among the aborigines of the New World.—— Our purpose is merely to show that a septenary division of time might have suggested itself to man’s reason, acting upon the luminaries, which we find God’s Providence intended for his guidance in such matters; without any special revelation, much less any hint of the Sabbath being necessarily implied in the existence of such a division.”

Another able writer observes, on this point:— “The phases of the Moon supply a familiar mark of time to the simplest and rudest nations,—the phenomena of the new and full Moon, especially, being such that men cannot fail to notice and employ them as the natural rule of their calendar. And, If a two-fold division of the month is thus a matter of necessity to ordinary observation, a four-fold division also is at least inevitably suggested by the Moon’s intermediate phase.—Thus we have the week of seven days. It is almost impossible, then, to avoid the conclusion to which we are pointing, when once we have discarded (as the majority of thoughtful men have consented to discard) the notion of an actual six-day’s period of creation. So long as that notion was maintained indeed, and was considered as a necessary part of religious belief, we could respect and even sympathise with the fixed determination to see nothing in the facts we have referred to beyond a singular coincidence. But now that we perceive ourselves both permitted and compelled to regard the seven Mosaic days as a figure of

speech, an accommodation to some previously existing mode of thought, we are prepared to listen in a totally different attitude of mind to what reason and history have to say." (Quoted in Cox's *Literature of the Sabbath Question*, i. p.290.)

Yes:—no doubt that is true. That "the week of seven days," was really the object of the weekly Sabbath among the Hebrews is still more plain from the fact that the New Moon was—at least in the olden times—regarded by them as a more important day than the ordinary Sabbath, and accordingly, in addition to the usual daily sacrifice, the Levitical Law provides a "burnt-offering" on the *New Moon* of "two bullocks, one ram, and seven lambs," with a kid for a sin-offering,—whereas on the *Sabbath* the additional sacrifice was *only* a burnt-offering of "two lambs." (N. 28, 9. 11.) The New Moon, in short, was the first Sabbath of the month, which was specially announced by trumpet sounds, and gave the law, as it were, for the rest, the first, eighth, fifteenth, and twenty-second days of every month being kept as days of rest, and the next Sabbath being the first of the following month; though, as the lunar changes are completed—not in 28, but—in 29½ days, it would seem that the last week of the month must have contained sometimes eight and sometimes nine days, and probably lasted until the New Moon was seen. Hence the New Moon is always named first in connection with the Sabbath by the prophets before the Captivity,—as I have already shewn. It was only about the time of the Captivity that greater stress was laid upon the observance of the Sabbath. And here, I would observe, that it must be clearly understood that with the Hebrews (as with other Oriental nations), the terms month and moon were alike: they having 13 months, or moons, in their year, and not like the moderns 12.

Before, however, I leave this part of my subject on which so much depends, I would call attention to two wonderful modern discoveries, bearing on the matter before us,—which have justly created such a sensation among thoughtful and intelligent men, viz. (1) the finding of the engraved MOABITE STONE; and (2) the decyphering of the cuneiform writing, or inscriptions, [12] engraved on the ASSYRIAN TABLETS of burnt clay. Truly we have "*sermons in stones*, and good in everything," to a degree that Shakespeare never dreamt of! I can, however, only just refer to them here; each, to do it justice, would take much time and writing. From those wonderfully preserved *Assyrian tablets*, (dug out of the ruins of the palace-library of the ancient Kings of Assyria, and written several thousand years ago! and only lately decyphered,) we learn very many things of the first consequence in Biblical Criticism, the same being highly elucidatory of the Old Testament narrations, and of their sources. But, what I would particularly notice now is, those tablets which contain the great astrological and astronomical work of the ancient Babylonians,— "composed for Babylonian Kings before the 16th century B.C.,"—or, more than a 100 years before the Jews left their slavery in Egypt. These are full of statements about the moon and the other planets and the stars, and their conjunctions and eclipses; and how they were predicted and watched for, and regularly noted down at their observatories, and sent in punctually to the Royal Court. The Babylonian Year was divided into 12 months of 30 days each, with an intercalary (or additional) month every 6 years. (Thus: *Ancient Babylonia*,  $12 \times 30 = 360 \times 6 = 2160 \div 30 = 2190$ ; *Modern European*,  $365 \times 6 = 2190$ .) How astonishingly accurate! being *quite correct!!* and that, too, without the aid of the telescopes and the hundred other

helps of modern discovery invention and science. Further: with them "according to the lunar division, the 7th., 14th., 19th., 21st., and 28th., were *days of rest*" (Sabbaths), "on which certain works were forbidden." So that, we see, what with our scholars and reasonable men a few years ago was but a belief, a conjecture, a possibility,—bascd, however, on a direct logical conclusion,—now passes into a certainty. The Assyrian names of the months also closely agree with the Hebrew, beginning also with Nisan (*Nisannu*, Assyrian).

Very much more may be reasonably expected and looked for from those interesting remains ; at which many highly-skilled scholars from all countries are now hard at work, which will tend more and more to throw light on our Bible,—both the Old Testament and the New. This saying may seem strange to some, viz., that those very ancient Babylonian and Assyrian records can throw any light on the New Testament, whatever they may do on the Old one; therefore, I will just give an instance. There is "the holiness of the number seven;" with "the song of the seven evil spirits (or demons) which haunt or enter into a man at once,"—with the proper demoniacal "exorcism, &c., for driving them out." One tablet has it,—

"The Song of the Seven Spirits."

They are seven! they are seven!

In the depths of ocean they are seven!

In the heights of heaven they are seven!

In the ocean stream in a palace they were born.

Male they are not: female they are not!

Wives they have not! Children are not born to them!

Rule they have not! Government they know not!

Prayers they hear not!

They are seven, and they are seven!

Twice over they are seven!

"This wild chant touches one of the deepest chords of their religious feeling. They held that seven evil spirits at once might enter into a man: there are frequent allusions to them, and to their expulsion, on the tablets. One runs thus:—

"The god ( . . . ) shall stand by his bedside:  
Those seven evil spirits he shall root out, and shall expel  
them from his body.  
And those seven shall never return to the sick man  
again."—

Compare this with what is said of Mary Magdalene, (Mark 16. 9: Luke 8. 2,) and of the last state of an unfortunate man, (Mat. 12. 45: Luke 11. 26,)—also of the number seven in many other passages.—Here I would remark, that it is very noticeable, that this peculiar demoniacal lore, or at least the beginning of it, the Jews appear to have brought back with them when they returned from Babylon: [13] for never read of any reference to the existence of a devil in any of those parts of the Bible, which were written *before* the Babylonish Captivity,—Thus, the moving of David to number Israel (2 Sam. 24.), is, in the older book ascribed to Jehovah, but in the later book of Chronicles (1 Ch. 21.) is ascribed to Satan. And so in the time of Jesus (as is seen, for example, constantly in Josephus) the belief in the possession of men by demons, was thoroughly established among all the Jews, with the exception of the Sadducees alone. —

The *Moabite Stone* was lately found among the ruins of Dibon in the land of Moab, on the E. side of the Dead Sea. It had engraved in really good old Hebrew (or, more properly speaking, Phenician) characters, a most interesting record of 3 series of events in the reign of Mesha King of Moab. For nearly 3000 years that stone had lain there

exposed to all the elements uncared for! and now it was found with all its inscriptions most beautifully preserved. Among other things we find the following, which may be here very briefly noticed.—(1) It was erected about the year 890 B.C., (only 75 years after Solomon's time,) by Mesha King of Moab, as “a stone of salvation and thanks to their god Chemosh, for enabling Mesha to see his desire upon his enemies, and to deliver his people from their enemies the Israelites,” to whom they had been tributary. (Just as Samuel is said, 230 years before, to have erected a similar stone, “Ebenezer,” for the Israelites, on their defeating the Philistines (1 S. 7. 12.) (2) In the Moabites beating the Israelites, they took away from them, some towns and country and many people, and also their golden vessels from Nebo, one of their high places, which the Israelites had dedicated to their national god Jehovah,—and these the Moabites now dedicated to the services of their god Chemosh, (3) The whole is given in very plain language, nothing high-flown or stilted; almost remarkable, in this respect, for an *Oriental* production ; occupying altogether 34 lines of inscription. (4) But its plain statement varies astonishingly from the wonderful account of the *same* transaction—*the same war*—as given us in the Book of Kings (2 K. 3). (5) And then comes the question.—Which of the two is the *correct* statement? One thing is certain,—THEY CANNOT BOTH BE TRUE.

Now with the many, among “religious” people,—including, I fear, not a few Ministers and Sunday School Teachers,—the “Bible” statement must be true.

Notwithstanding, two or three wee things, I may, perhaps, be allowed to call their attention to.—

1. The Moabite Stone was engraved and erected *at the time*, to commemorate that particular deliverance; it was a public thing open to all, all could see it, all might read it in their own tongue. But the Jewish story was written (as I have already shewn) some 450 years after,—after, too, the return of the remnant of the Jews from their long Captivity; and its writing was altogether more of a private character.

2. The Moabites never again became tributary to the Israelites, although living so very close to them; so that one might reasonably infer the Jews had had enough of it on that occasion. Besides the Israelites were bound, by their Levitical laws (Deut. 23. 3), never to be neighbourly with them; which old spite, it appears, they also endeavored to renew after their return from the Captivity (Neh. 13. 1), although their most famous king, David, was descended from Ruth the Moabitess! who was his great grandmother; and, to the care of the King of Moab, David had also sent his parents for protection, when in great trouble from Saul. (1 Sam. 22. 3. 4.)

3. The yearly tribute which Mesha the King of Moab had to pay to Israel according to the story in the Bible (2 Kings, 3.), was “100,000 lambs, and 100,000 rams, with their wool.” Now this petty kingdom of Moab only comprised a small tract of country, about 40 miles long by 10 broad, (just like a narrow slip extending from Napier to Waipawa,—but nothing like it, in its grass, or water, or in its general fertility,)—and most of my readers here in New Zealand can better [14] understand *all about* that amount of *annual* tribute (200,000 sheep) from such a sterile tract of country on the shores of the Dead Sea, than very many others in England and elsewhere. But read attentively the whole story, in that chapter of 2 Kings already mentioned; and I fear that the Hebrew story, as it there stands, will

appear to be a fiction; apparently part of some legendary account handed down from the olden time concerning Elisha.

(*Time of Jesus and his apostles.*)

Let us now proceed to enquire,—(1) How Jesus and his followers acted; how they kept “the Sabbath” of their nation. Like good Jews they upheld the national Institutions, (Luke 2.21: 22.7, 8, 13, 14.)—often going into the synagogues on “the Sabbath-day,” as “his custom was,” to read and to teach,—which office, according to the Jews, was alike open to all. They kept the Sabbath, however, in a liberal way. We find him on a Sabbath-day going to a feast at the house of a chief Pharisee (or ruler), where there were a great company of guests, (which must have certainly caused the servants a deal of unnecessary labour in preparing the banquet and in waiting upon the guests,) and where there was also a scramble for the chief seats. But this kind of convivial meeting on the Sabbath, was allowed by the Pharisees, as we have already seen. On that occasion, the scrambling which Jesus saw was evidently the cause of two of his noted parables respecting a supper, or feast, delivered at that time,—and, also, of the rule which he then gave for the proper giving of a feast. (Luke 14.) Indeed Jesus often so acted,—laying hold of passing events, and so suiting the word to the time, or occasion. Again, we find that through frs liberal mode of acting on several Sabbaths, both Jesus and his disciples were often charged with having “broken the Sabbath,” and with having “done that which was not lawful on the Sabbath-day;” and it was this (among othor things) which so greatly enraged the Pharisees against him. We are told of several remarkable cases of healing performed by Jesus on the Sabbath-day; as, the man with the withered hand,—the woman who had been bowed for 18 years,—the impotent man, who had spent a dreary 38 years in that state,—the man with the dropsy,—and the blind man. Now (1) these cases were all old, longstanding ones; not peculiarly dangerous and pressing ones of the day immediately affecting life; and, therefore, they might have well stood over until the following day, or week; and (2) they were not only cured on the Sabbath-day, but that in the most public manner, mostly in the synagogue (or “Church”) itself before all the Congregation; and, sometimes, accompanied with other “work,” (as, in the *making of clay*,—and in the ordering the impotent man to *carry his bed*,—and the blind man *go to Siloam and wash*,) which must have additionally galled the Jews. Then again, we have recorded by three of the Evangelists, their *walking* through the corn-fields on the Sabbath-day and their *gathering* the corn, and *rubbing-out* the grain as they went for food; and the memorable reply of Jesus,—in almost the very words of the Talmud (already quoted by me), which, no doubt, he had often heard and read,—“The Sabbath was made for man, not man for the Sabbath; therefore the son of man is Lord also of the Sabbath.” (Mark 2.) Where were these Corn-fields? Scarcely within “the Sabbath-day’s journey” allowed by the Jews; which was only six *stadia* = 2000 paces, or, about, 6 furlongs, (not quite as far as the “Maori Club” on the White Road is from the Government Buildings,)—so that, it appears, that in this respect (*of distance*) the Sabbath was also broken. Now in all this we perceive a certain something done openly, all tending to lessen “the traditions of the elders” and the Pharisaic sanctity of the Sabbath.—

(2) How, or what, did Jesus *teach* concerning their Sabbath, in his many teachings, discourses and parables? Here however, we can gain but little, because there is but little

recorded. There is "The sermon on the Mount" (as it is called), but it is worthy of notice, that while very many subjects are therein [15] mentioned and brought forward, including several of the "ten Commandments,"—there is *nothing* concerning the Sabbath. There is, however, his noble and open and oft-repeated statement, that "it is lawful to do well on the Sabbath-days" (Mat. 12.12); further illustrating his meaning by the works of lifting a sheep out of a pit, and of leading an ox or an ass to water; which, with that precious saying already mentioned ("The Sabbath was made for man, &c."),—one would think would have been quite enough for his followers for all time!

There is also a highly curious and characteristic saying of Jesus about the Sabbath,—which is not found in our New Testaments, and is only found in *one* very ancient Greek manuscript and in *one* equally ancient Latin one (known to scholars as *Codex Bezae*), which date from the 5th century, and therefore holds a place among the five oldest Greek Manuscripts. As far as I know, it has not been translated and printed in English, but I will give a translation. It is an additional verse coming after Luke 6.4, (the 5 v. being placed in those two manuscripts after the 10 v.,) and runs thus:—"In the same day, Jesus seeing a certain man tilling his ground on the Sabbath, said unto him, Man, if indeed thou knowest what thou art doing thou art blessed; but if thou knowest not thou art cursed, for thou art a transgressor of the law."—Does not this strongly remind us of Paul's saying,—"Happy is he that condemneth not himself in that thing which he alloweth." (Rom. 14.22)—Which may indeed be grounded on it; much as Paul has given us a peculiar saying of Jesus,—Acts 20.35. And it may also be further noticed, that the very peculiar and strong Greek word for "*Curse*," used here,—is only used twice besides in the whole New Testament,—viz. in John 7.49, (where the Pharisees used it concerning the people who *knew not the law*,—from which very circumstance Jesus might have adopted it;) and, again, in Gal. 2. 10, 13, (where Paul uses the word in his strongly emphatic way);—it is not the word commonly used in the New Testament for curse. The same Greek word which is in Rom. 14, 22. translated "*Happy*" I have here translated *Blessed*; as in Mat. 5. 3–11. Some of our first modern Greek Scholars and Commentators believe in the originality and authenticity of that saying of Jesus.

3. What Jesus further said concerning the Sabbath, incidentally or otherwise, in his many questionings concerning the "Commandments," made to those who came to him. Here, again, we find ourselves at a loss; although Jesus seemed to have pretty closely questioned several who came to him about their keeping of the "Commandments"; as in the very particular case of one who, on coming to Jesus to enquire what he should do to obtain eternal life, called him "*Good Master*"; (and, was, apparently, first rebuked by Jesus for giving to him that title of *Good*,—which belonged to *God alone*;) Jesus told him, that if he would enter into life he should keep the "Commandments"; and then Jesus repeats *six* out of "the 10 commandments" to him,—but excludes all mention of that peculiarly great one among the Jews—the Sabbath (Mat. 19. 18.)

This remarkable interview is also mentioned in three of the Gospels, (Mat. 19, Mark 10, Luke 18,) with but little variation. Mark also gives another and a similar one, (12. 28–34,) which I have ever considered as one of the truly grand conversations related in the Gospels. Here, the inquirer asks, "Which is the first Commandment of all?" Jesus replies,—as a true Jew,—saying,—(in sublime and

beautiful language, quoted from the Old Testament, and well-known among the later Jews, as the standard article of their belief, and their war-cry in battle,)—"The first is, Hear O Israel, the Lord our God is one Lord: and thou shalt love the Lord thy God with all thy heart, and with all thy soul, and with all thy mind, and with all thy strength: this is the *first* Commandment." And then Jesus adds,—"And the second is like, Thou shalt love thy neighbour as thyself. There is none other Commandment greater than these." And his questioner also answers discreetly and beautifully insomuch that he was highly praised by [16] Jesus for so doing. Yet here, again, we find not a word about *the Sabbath*,—that great and peculiar institution of the Jews!

(1) Why is this omission,—if that of the Sabbath were indeed really given from the burning summit of Mount Sinai, amid lightnings and thunderings and earthquakes? (2) If that of the Sabbath were, as Nehemiah and the few later prophets repeatedly say,—the sign of the Covenant between the Israelites and God?

Moreover, here arises an important question to the *thoughtful* mind:—(1) Why did Jesus when asked—What was the *first* commandment of all? Why did he not quote from the "ten Commandments," giving the *first* of them,—if such had been really spoken by the majestic voice of God from Sinai, and engraved by His holy fingers on stone? (2) Again, when Jesus also adds the *second* (great) commandment,—Why are the "10 Commandments" (including that of the Sabbath), again passed by? (3) And why are *all* (even including *those* "ten") said to hang on *these two*?—which were *not* given openly by God himself with dreadful pomp and terror on the burning mountain (as recorded in Exodus), but merely quietly written down many many years after, by some unknown yet inspired scribe in the books of Deuteronomy (6) and Leviticus (19).

It is of no use attempting to blink the facts before us;—If those so-called "ten commandments," said to have been so spoken by the *One* Unchangeable and Blessed God Himself, and by Him also engraved in stone; If such had ever really been so spoken and so given,—Jesus could never have overlooked them never have spoken thus.—

(*Time of the Apostles.*)

We are come down now to the time of the Apostles, *after* that of Jesus; and, in like manner, we will quietly prosecute the enquiry.—

1. How did the Apostles *act*, with especial reference to the Sabbath?

Of their positive doings *re* the Sabbath-day, we have very little indeed recorded;—but of those of Paul ("the Apostle of the Gentiles") we have a fair share.—And, in briefly considering Paul's actions and teachings concerning the Sabbath-days, we must ever bear this in mind,—that Paul was (as he himself tells us), one of the straitest (narrowest) religious sect among the Jews, "a Pharisee and the son of a Pharisee."

(1) At first we find Paul commonly, during his travels, going into the Jewish synagogues (or Churches) on the Sabbath-day, and teaching (that is, exhorting and preaching) therein, after the manner of the Jews; (viz., at Antioch, Acts 13. 14–16, etc., at Thessalonica, Acts 17. 2, and at Corinth, Acts 18. 4;) just like Jesus himself did at Nazareth (Luke 4. 16) and other places before him, as we have already seen.

(2) After several years of travel and teaching we find Paul returning to Jerusalem, and there “with the Apostles and elders” assembling to consider certain grave matters pertaining to the Jewish religion; for the Pharisee believers of Jerusalem had said,— “It was needful to command the Gentile believers *to keep the Law of Moses.*” This, however, Peter, who was also present, strongly opposed, terming it a “tempting of God”—to seek “to put a yoke on the neck of the disciples” (the Gentile believers) “which,” said Peter, “neither our fathers nor we were able to bear.” And so we find this first and best Council, composed of Jewish Christians, after having thoroughly discussed these important matters *concerning the keeping of the Law of Moses*, laying down *four simple rules only* for the Gentile Christians,—on whom “they (the Apostles) would lay no greater burdens than these (four) necessary things”; and this decision, they also declared and wrote, had “seemed good to the Holy Spirit as well as to themselves” acting together.

Now, (1) If the keeping of the Sabbath-day was really a *Divine Institution*, does it not seem strange that nothing was then said about it? Seeing, too, (2) that such comparatively small matters—as the abstaining from things strangled, and the eating of blood—(both long ago broken and thrown aside!) should have been then [17] sent forth as rules, or decrees? Therefore, it must follow, that the keeping of the Sabbath-day was not, in the opinion of the Holy Spirit and of the Apostles, any great matter.

3. After this, on several occasions, we find Paul writing to the various churches, or congregations, of Christians; and particularly laying down what to avoid (“works of the flesh”), and what to follow and do. Now it is highly noticeable,—(1) that in those long lists of evil works and practices given by him (viz., Gal. 5. 19–21, Eph. 5. 3, Col. 3. 5, etc.,) we find nothing of “Sabbath-breaking”! Although, in his “lists,” Paul is sometimes so diffuse as to state the same thing (generically) under different heads (specifically): (2) that in what he plainly directs the Gentile Christians to do,—(viz., Eph. 5. 6; Col. 3. 4; 1. Thess 5, &c.,)—although he even, at times, quotes from “the Law of Moses” (Eph. 6. 2)—yet Paul never once says a word about keeping “the Sabbath”! And, again, (3) in that particularly affectionate portion of his letter to his beloved Philippians (ch. 4),—in which Paul sums up all good things, as it were, saying,— “*Those things*, which ye have both learned, and received, and heard, and seen in me, do”; here, again, is no mention of “the Sabbath.”

How is this?—If the strict keeping of “the Sabbath-day” was of such very great importance?

I know very well what kind of answer I shall get to all this evidence that I have hitherto brought forward,—That all such is of a negative character, and therefore proves nothing.

Be it so. I come then to the *positive teaching* of the Apostle Paul on this subject. lie says distinctly to the Colossians,— “Let no man therefore judge you in meat, or in drink, or in respect of an holy day, or of the new moon, or of the Sabbath-days which are a shadow of things to come” (2. 16);—and to the Romans,— “Who art thou that judgest another man’s servant? to his own master he standeth or falleth. Yea, he shall be holden up, for God is able to make him stand, One man esteemeth one day above another, another esteemeth every day alike. Let every man be fully persuaded in his own mind. He that regardeth the day,

regardeth it unto the Lord; and he that regardeth not the day, to the Lord. he doth not regard it.” (14. 4.)

On those two passages the late Dean Alford of Canterbury wrote, in his new edition of the Greek Testament:— “If any one day in the week were invested with the sacred character of the Sabbath, it would have been wholly impossible for the Apostle to uphold or commend the man, who judged all days alike worthy of equal honour.” — — — I therefore infer that Sabbatical obligation to keep any day, whether seventh or first, was not recognised in Apostolic times.” (On Rom. 14. 5.) “If the ordinance of the Sabbath had been, *in any form*, of lasting obligation on the Christian Church, it would have been quite impossible for the Apostle to have spoken thus. The fact of an obligatory rest of one day, whether the seventh or the first, would have been directly in the teeth of his assertion here.” (On Col. 2.16.)

(I bring this forward now,—as it is a single comment on these particular texts.)

Again, Paul says to the Galatians,— “But now, after that ye have known God, or rather are known of God, how turn ye again to the weak and beggarly elements, whereunto ye desire again to be in bondage? Ye observe days, and months, and times, and years. I am afraid of you, lest I have bestowed upon you labour in vain.” (4. 9–11.) Here, of course, Paul alludes to Jewish festivals as commanded by “the Law of Moses,” of which the Sabbath days, the New Moons, and the Sabbatical years were examples. And note, how depreciatingly how loweringly Paul speaks of those very things which he once believed to be so high and so holy. —Wheatly here well observes,— “the Ohristians were no more obliged to observe the Jewish festival, than they were concerned in the mercies therein commemorated, and this is the reason that when the Judaizing Christians would have imposed upon the Galatians the observation of the Jewish festivals, as necessary to salvation; [18] Paul looked upon it as a thing so *criminal* that he was afraid the labour he had bestowed upon them to set them at liberty in the freedom of the Gospel had been in *vain*.

In concluding this part of my subject, I would again remark,—it is very noticeable that, throughout the New Testament, there is not a single instance of any stress whatever being laid on the strict observance of the Sabbath-day. Jesus himself and the apostles (as we have seen) observed it,—but in a very liberal kind of way; they never, in any act or work recorded in the Gospels or Epistles, inculcate either by example or by precept, a Sabbatarian spirit. Rather, so far as their words and acts imply anything in this respect, they tend to discourage and disown such a spirit. And expressly in the famous decision of the Church at Jerusalem, which was forwarded to the believing Gentiles at Antioch, by the hands of Paul and Barnabas, Judas, and Silas, they laid no “burden” on them of Sabbatical observances.—

### III. ECCLESIASTICAL.

#### (1. Primitive.)

AFTER the time of the Apostles we find that the early Christians did not specially and as a rule keep the Sabbath-day holy. No doubt those who were Jews, or descendants of Jews, for some time longer kept up their weekly assembling on that day; but such observance,—not having been appointed by the Apostles and left free (as we have seen),—naturally fell into neglect. Bingham says,— “If it be inquired, why the ancient church continued (for a time) the

observation of the Jewish Sabbath, when they took it to be only a temporary institution given to the Jews only, as circumcision and other rites of the law; (which is expressly said by many of the ancient writers, particularly by Justin Martyr, Irenaeus, Tertullian, and Eusebius;) it is answered by learned men,— that it was to comply with the Jewish converts as they also did in the use of other indifferent things, so long as no doctrinal necessity was laid upon them. For the Jews being generally the first converts to the Christian faith, they still maintained a mighty reverence for the Mosaic institutions, and especially for the Sabbath,— and were therefore very loth it should be laid aside. For this reason, it seemed good to the prudence of those times, (as in other of the Jewish rites, so in this) to indulge the humour of that people and to keep the Sabbath as a day for religious offices; but when any one pretended to carry the observation of it further,—either by introducing a doctrinal necessity, or pressing the observation of it after the Jewish manner, they resolutely opposed it as introducing Judaism into the Christian religion.” Some, indeed, kept *both days*, the Jewish Sabbath and the Sunday; yet in rites and ceremonials a difference was made, and the preference was given to the Lord’s-day (or Sunday) above the Sabbath. “For first,” (Bingham continues,) “we find no Ecclesiastical laws obliging men to pray standing on the Sabbath; nor, secondly, any imperial laws forbidding law-suits and pleadings on the Sabbath; nor, thirdly, any laws prohibiting the public shows and games; nor, fourthly, any laws obliging men to abstain wholly from bodily labour. But, on the contrary, the Council of Laodicea has a canon for converts, forbidding Christians to Judaize, or rest on the Sabbath, any further than was necessary for public worship; but they were to honour the Lord’s day, and to rest on it as Christians; and if any were found to Judaise, an anathema is pronounced against them. — — — For this reason the sect of the Ebionites were condemned for joining the observation of the Sabbath according to the Jews with the observation of the Lord’s day after the manner of the Christians. Against such the Council of Laodicea pronounces anathema, that is,—such as taught the necessity of keeping the Sabbath a perfect rest with [19] the Jews. And in this sense we are to understand what Gregory the Great says, That antichrist will renew the observation of the Sabbath.” (*Origines Ecclesiasticae*, lib. xx.)

And this, to me, appears as an additional witness,—of no distinct rule, no law, having been ever laid down by any express apostolic authority respecting the keeping of the Sabbath, or substituting (as some will have it) the first day of the week to be kept *Sabbatically* instead of the seventh. For when the early Christians met together on the first day of the week, they did not dream of taking the 4th Commandment, and putting that forward as prescribing a rule for the religious observance of the first day. That the *first* day of the week, “the day of the Sun,” was observed from very early times among Christians, as a day on which they specially assembled for religious purposes, we know from undoubted authority. But no writer of the first three centuries has attributed the origin of Sunday observance to any apostolic authority.— “In the first century, Barnabas (or whoever else wrote the epistle ascribed to him), Justin Martyr, A.D. 147, Dionysius Bishop of Corinth, A.D. 170, Tertullian, A.D. 192, Clement of Alexandria, A.D. 192, Origen, A.D. 230, Cyprian Bishop of Carthage, A.D. 250,— all mention or allude to the religious observance of the Sunday; but not one of them even hints that it originated in any precept of Christ, or in any recommendation of the Apostles, either by precept or example. Yet, had any such

precept been given, or example set, it is incredible that it should not have been known in the times of the writers above-named, and hardly to be believed that, if known, it would not have been mentioned by them or by some of them.” (Sir Win. Domville, *The Sabbath*)

I may here quote, also, the words of Justin Martyr,—in his famous *Apology* for the Christians, made to the Roman Emperor Antoninus Pius,— “We all of us assemble together on the day of the Sun, because it is the first day in which God changed darkness and matter and made the world. On the same day also Jesus Christ our Saviour rose from the dead. For he was crucified the day before Saturn’s day; and on the day after Saturn’s day, which is the day of the Sun, he appeared to his apostles and disciples, and taught them what we now submit to your consideration.”

St. Cyril, Bishop of Jerusalem, A.D. 345 says, to his flock,— “Turn thou not out of the way into Samaritanism or Judaism, for Jesus Christ hath redeemed thee; henceforth reject all observance of Sabbaths, and call not meats, which are really matters of indifference, common or unclean.”

St. Jerome, A.D. 392, also says:—

“On the Lord’s day” (and, note well, this shows you the manner of its observance amongst the early Christians,) “they went to church, and returning from church they would apply themselves to their allotted works, and make garments for themselves and others. The day is not a day of fasting, but the day is a day of joy; the church has always considered it a day of joy, and none but heretics have thought otherwise.” So that the early Christians did not think it was wrong to make garments for themselves and others on the Lord’s-day. Such an idea never once entered into their heads! As a modern Divine correctly remarks, (on those words of Jerome,) — “There was no Sunday League in those days, and the only Sabbatarians were Jews. It is curious to observe, that whilst the modern Christians have seldom converted the Jews, the Jews have converted modern Christians in whole sects to Sabbatarianism.” (!!)

#### (2. Time of the Reformation.)

QUOTATIONS without number might be made from the writings of eminent Divines (Reformers), in the Church of England and in other Churches, expressly protecting, and in the strongest terms, against Christians entertaining the idea that the Law of Moses was in any sense binding upon them, and most particularly in reference to the 4th Commandment. Thus *Tyndal*, (the first translator of the Bible into English, who was burnt as a Martyr at Antwerp, A.D. 1536) says:—

“As for the Sabbath we are lords over it, and may yet change it into *Munday*, or [20] into any other day, as we see need, or may make every *tenth* day holy-day only, if we see cause why. Neither was there any cause to change it from the Saturday, but to put a difference between us and the Jews. Neither need we any *holy-day* at all, if the people might be taught without it.”—

Thus, also, Luther says,—in his usual stirring impulsive way, which made men say “that his words were half-battles, that they had hands and feet.” He says:—

“As for the Sabbath or Sunday, there is no necessity for its observance. And if we do so, the reason ought to be, not because Moses commanded it, but because Nature likewise teaches us to give ourselves, from time to time, a day’s rest, in order that man and beast may recruit their strength, and that we may go and hear the word of God preached.” And

elsewhere he writes:— “Keep the Sabbath holy for its use both to body and soul. But, if anywhere the day is made holy for the mere day’s sake,—if anywhere anyone sets up its observance upon a Jewish foundation,—then I order you to work on it, to ride on it, to dance on it, to feast on it, to do anything that shall remove this encroachment on the Christian spirit and liberty.” Again he says:— “For only faith in God, and love toward our neighbour, are necessarily required, all other things are free;—so that we may freely observe them for one man’s sake, and omit them for another man’s sake, as we shall perceive it to be profitable to everyone.—We see the same example commonly in Christ, but specially *Matt.* 12 and *Mark* 2, where we read that he suffered his disciples to break the Sabbath, and he himself also, when the case so required, did break it, when it was otherwise he did keep it, whereof be gave this reason,—*The son of man is lord even of the Sabbath.* Which is as much as to say,—the Sabbath is free, that thou mayest break it for one man’s sake and commodity, and for the sake and commodity of another thou mayest keep it.”

*Melancthon*, also, says:— “The Scripture has abrogated the Sabbath, since it teaches that after the revelation of the Gospel all the Mosaic Ceremonies may be neglected.”

And so Calvin.— “In this way we get rid of the trifling of the *false* prophets, who in later times instilled Jewish ideas into the people, alleging that nothing was abrogated but what was *ceremonial* in the commandment, while the *moral part remains*, viz., the observance of one day in seven.” We also read of Calvin, that,— “on one occasion when good John Knox paid him a visit on Sunday afternoon, he found the holy man enjoying a game at bowls.”

And the *Homily* of the Church of England, “on the place and time of prayer,” contains these words:—

“Albeit this commandment of God doth not bind Christian people *so straitly* to observe and keep the *utter* ceremonies of the Sabbath-day, as it was given to the Jews, as touching the forbearing of work and labor in time of great necessity, and as touching the precise keeping of the seventh day, after the manner of the Jews. — — — Yet, notwithstanding, whatsoever is found in the commandment *appertaining to the Law of Nature*, as a thing most godly, most just, and needful for the setting forth of God’s glory, it ought to be retained and kept of all good Christian people.”

Mr Sidey, in his published sermon (already referred to), says — “The *right keeping* of the Sabbath has always been a distasteful thing to men of a despotic spirit, and many have been the expedients to which they have resorted to prevent it. In no one of these have they shewn greater skill to *hinder liberty and intelligence*, and those conditions of society which tended to conscientiousness, than in the conversion of the Sabbath into a day of pastime. Charles I. proclaimed the “Book of Sports” to reconcile the English people to their distresses. (*Sic!*) *By this they were required to spend the lorge part of the day in amusements*, and those who *complied* with the edict were specially *rewarded* for so doing, while those who *refused* were subjected to *pains and penalties*. In this work he was powerfully helped by Laud, if *he was not directed to it by this prelate*, for reasons [21] of a kindred character (I have quoted this at full length, as I intend to *cut it up*, to shew how easily things are twisted to suit purposes!)

On the foregoing statements of Mr Sidey I would remark— (1) that Mr Sidey is a wee bit wrong in his English History (both civil and ecclesiastical), as well as his chronology;

and (2) also, in several of his severe and unfounded charges; and (3) as a matter of course in his conclusions therefrom.

(1) For it was *not* King Charles I, who issued and proclaimed “the Book of Sports”—but his father, King James I., a Scotsman, and a countryman of Mr Sidey’s!— who issued it in 1618; at which time Laud was quietly and unobtrusively living at his college, St. John’s, Oxford; and had nothing to do with it. Moreover, it should not be overlooked, that James himself, a Presbyterian, when King of Scotland, (only a few years before,) actually wrote a letter to Queen Elizabeth in behalf of two Presbyterian English ministers, whom he considered rather hardly treated.

(2) And what does King James say?— “For his good people’s lawful recreation, his pleasure was, that, *after the end of Divine Service*, they should not be disturbed, letted, or discouraged from any *lawful* recreations; such as dancing either of men or women; archery for men, leaping, vaulting, or any such harmless recreations; nor from having of Maygames, Whitsunales, or Morris-dances, and setting up of Maypoles, or other sports therewith used, so as the same be had *in due and convenient time, without impediment or let of Divine Service*; and that women should have leave to carry rushes to the church for the decoring of it, according to their old custom; withal prohibiting all unlawful games to be used on the Sundays only, as bear-baiting, bull-baiting, interludes, and bowling.”—

Now I cannot understand why Mr Sidey should say— “the English people were *required* to spend the large part of the day in amusement,” there is nothing of the kind in the King’s injunction.

Again: Mr Sidey says, “those who *complied* were *rewarded*, those who *refused, suffered*”—that, however, does *not* appear from the State paper and I also find, from Church History, that while there was more or less of arguments for and against, and many fears among the ministers of that period, as to their being obliged to read the said Royal Declaration in their several churches,— “That, after so long and so much talking,— — —their own fear proved at last their only foe; the King’s goodness taking away the subject of their jealousy so that *no minister was enjoined to read the book in his parish*, wherewith they had so affrighted themselves.”

(3) Further,—I cannot conceive how Mr Sidey could have written, that such a declaration on the part of the King, was done “*to hinder liberty, and intelligence*:” for, it seems to me, viewing English society as it was then, to be wholly and altogether the other way!

Let us just briefly see what the Historian says about it; how was that peculiar edict brought about; how came it to pass?

In 1616, King James visited his native country Scotland. And the quaint old Church Historian Fuller, (no friend of the High-Church, or Laudian, party,) writes:— “King James, having, last year, in his progress passed through Lancashire, took notice, that by the preciseness of some magistrates and ministers, in several places of his kingdom, in hindering people from their recreations on the Sunday, the papists in this realm being thereby persuaded that no honest mirth or recreation was tolerable in our religion. Whereupon, May 14th, the Court being then at Greenwich, he set forth his Declaration” (given above). And then,— after noticing several arguments in use, both for and against it,—he goes on to say:— “However, there wanted not many,

both in Lancashire and elsewhere who conceived the Declaration came forth seasonably, to suppress the dangerous endeavour of such who now began in their pulpits to broach the dregs of Judaism, and force Christians to drink them. So that those legal ceremonies, long since dead, buried, and rotten in the grave of our Saviour, had [22] now their ghosts, as it were, walking; frightening such people with their terrible apparitions, who were persuaded by some preachers to so rigorous observation of the Sabbath, that therein it was unlawful to dress meat, sweep their houses, kindle their fires, or the like. Yea, and in Lancashire especially the Romanists made advantage of this strictness to pervert many to popery, persuading them, that the Protestant religion was one where no lawful liberty was allowed. And no wonder if many common people were hereby fetched off unto them; ‘starting aside as a broken bow,’ chiefly because overbent for lack of lawful recreation.”—So, we may perceive, that the Judaizing Sabbatarians and precisians were really the cause of all this!

Fifteen years after, viz., A.D. 1633—King Charles was *obliged* to republish his Father’s Declaration; but on this *second* occasion (Laud being now Archbishop), our Historian says,—“there was *no* express mention in this Declaration that the Minister of the Parish should be pressed to the publishing of it;”—which, however, was in that of King James. As before, so now: the Sabbatarian sect being the sole cause of it (as may be read at large in Church History). Our Historian says:—“Now (A.D. 1633) the Sabbatarian controversy began to be revived, which broke forth into a long and hot contention. Bradborn, a minister of Suffolk, began it, setting forth a book entitled, ‘A Defence of the Sabbath-day:’ maintaining therein, 1. The 4th Commandment simply and entirely moral. 2. Christians, as well as Jews, obliged to the everlasting observation of that day. 3. That the Lord’s day is an ordinary working-day. The Bishop of Ely was employed by his Majesty to confute Mr Bradborn’s erroneous opinion.—And Mr Bradborn, perceiving the unsoundness of his own principles, became a convert, conforming himself quietly to the Church of England.”

Just in this juncture of time (A.D. 1634) a Declaration for Sports, set forth the fifteenth of King James, was revived and enlarged. “For, his Majesty, being troubled with Petitions on both sides thought good to follow his father’s royal example—————It was charged on the Archbishop of Canterbury (Laud), at his trial, that he had caused the reviving and enlarging of this Declaration. He denied it, yet professing his judgment for recreations on that day, alleging the practice of the Church at Geneva allowing shooting in longbows, &c., thereon; adding also, that, though indulging liberty to others, in his own person he strictly observed that day.” It further appears, “that the Church of Geneva went about to remove the observance of the Sabbath to Thursday; but, it seems, it was carried in the negative.”

This “Declaration,” or “Book of Sports,” (on which, owing to Mr Sidey, I have been obliged to dwell,) must not for a moment be judged of by us, or compared with our manners and customs in the present day; save as to its *principles*: these are sound. We have seen that Calvin himself played at bowls for recreation on “the Sabbath;” and that the Church at Geneva (John Knox’s own) allowed of archery, etc.—

I perfectly understand Mr Sidey’s *last* words (quoted by me),—but as they have a meaning somewhat foreign to my subject, I let them pass.

### (3. *Modern.*)

I particularly note Mr Sidey’s phraseology—“the right keeping of the Sabbath.” I fear, however, that Mr Sidey means by those words almost the very opposite of what I should mean by them;—aye, of what the Reformers and the Primitive Church, the Apostles and Jesus himself, meant by them as I have endeavoured to show.

In stating what I believe Mr Sidey to mean, I have no need to go back to those times of James and of Charles, to fetch the precise doings of the Sabbatarians of those days. I will just show, (1) from first and unimpeached Scottish testimony, what a wretched thing the strict keeping of the Sabbath in Scotland was, in the last century; and is still, I fear, in not a few benighted places. —First, however, observing, that the Presbyterian Church of Scotland lays down the law in its “*Shorter Catechism*,” that—[23]

“The Sabbath is to be sanctified by a holy resting all that day even from such worldly employments and recreations as are lawful on other days, and spending *the whole time* in the public and private exercises of God’s worship, except so much as is to be taken up in the works of necessity and mercy.” And it goes on further to declare, that—“The 4th Commandment forbiddeth the omission or careless performance of the duties required, and the profaning the day by idleness, or doing that which is in itself sinful, or by unnecessary thoughts, words, or works, about our worldly employments or recreations.”

In that Church a Decree was passed so lately as June 7, 1709, in the following terms:—

“The General Meetings of the Kirk-sessions of Edinburgh, taking to their serious consideration that the Lord’s-day is profaned, by people’s *standing in the streets, and vaging [strolling] to fields and gardens and to the Castle-hill*, as also by *standing idle gazing out of windows*,... and finding that there are divers acts for preventing the profanation of the Lord’s-day; therefore the General Sessions do resolve to see to the execution of these good acts, — — — and do seriously exhort parents and masters of families, *to keep their children and servants within doors upon that holy day*, and to take care that all belonging to them do sanctify the same, and punctually attend the public worship of God; with notification, that notice will be taken of such as shall be found transgressing, and they called before the Kirk-Session and censured for the same, and, if they do not amend, they will be referred to the Civil Magistrate to be punished.”

One of those “good acts,” to which this document refers, was probably that passed in 1705, “against the Profanation of the Lord’s Day,” wherein—“taking into their serious consideration the great frequency of the offence, by multitudes of people *walking idly upon the streets of the city of Edinburgh, the Pier and Shore of Leith, in St. Ann’s Yards, and the Queen’s Park*,—and being deeply sensible of *the great dishonour done to the Holy God*, and of the open contempt of God and Man manifested by such *heaven-daring profaneness*, to the exposing of the nation to the heaviest judgments, —therefore they do in the fear of God earnestly exhort all the reverend brethren, &c., to contribute their utmost endeavours in their stations for suppressing such gross profanation of the Lord’s Day, by a vigorous and impartial, yet prudent, exercise of the discipline of the Church.”

It has been well-observed on the foregoing, and therefore I quote it here:—“If those Inquisitors had been in authority at

Jerusalem when our Lord Jesus Christ ‘vaged’ through the cornfields on the Sabbath, they undoubtedly would not only have accused his disciples, as the Pharisees did, of profaning the sacred day by plucking the ears of corn and rubbing them in their hands, but would have outdone that most strict of Jewish sects, by denouncing both him and his followers as Sabbath-breakers, on the score of the ‘vaging’ itself.”

And, again, by the same author:—“Those who know the dark and filthy ‘closes’ of Edinburgh, as they are even in these days of sanitary reform, may judge how far the laws of health could be observed by persons confined all day with no better recreation than theological reading and Sunday ‘tasks,’ to dark, ill-aired houses, in localities so filthy. Above all, think of the imprisoned children, thus trained to glorify God, and to delight in His Service!— impatient wretches, deprived of the lively exercise to which Nature impels the young for their good,—withdrawn from the solar light, so conducive to their healthy growth, and reduced by indigestion, ennui, discontent, and the horrors of the Catechism, to an extremity of peevishness and disobedience,—which their tormented parents deplore as unquestionable symptoms of the corruption of human nature, brought into the world by the Fall, and of the evil instigation of the arch-enemy of mankind!” (Cox, *Sabbath Laws*, &c.)

A few years before that time last mentioned, it was ordered by the Town Conoil of Edinburgh, (apparently with reference to Nehemiah 13. 19,) that—“to the [24] effect, people may be restrained from vaging abroad upon the Sabbath, none be suffered to come in or out at any of the ports of this burgh from the Saturday at night till the Monday at morning, nor be found vaging in the streets, or repairing to the Castle-hill of this burgh, under the pain of imprisonment, and farther punishment of their persons at the will of the magistrate.” And, when it was also ordered, that the public wells should be closed on Sunday from 8 A.M. till noon, and from 1 P.M. to 5 P.M.,—“none to bring any greater vessels to the wells for carrying of water, than a pint stoup or a pint bottle upon the Lord’s Day.” (Cox, *loc.cit.*)

Here some one may say,—“That was a century and half ago! and even in Scotland things are changed very much for the better since then. In England, happy England! there are no laws which forbid ‘vaging’ on Sunday; and here in Napier, we have very little of this.” Bide a wee,—is my reply; you shall hear and know more yet, shewing, that this crying evil, this remnant of Judaism or worse, this Sabbatarian superstition is still seeking to impede the progress of the physical, moral, and religious welfare of the whole community.

(2) I will now show what more recently, some of the best ministers of the Scotch Kirk have said about it.—

The Rev. W.C. Smith a minister of the Free Church, in a speech at Edinburgh, November 10, 1865,—on their miserable “observanc of the Sabbath,”—says:—“No street lamps were allowed to be lighted on the darkest Sunday nights, because it was held that nobody had any right to be out of doors at such hours. The Assembly forbade any person taking a walk on the Sabbath, or looking out of a window and therefore all the blinds were pulled down; and there is great reason to fear that the spurious conscience thus created indemnified itself all the gnats it was forced to strain at, by swallowing a variety of camels. No one who knows anything of those days,—with their universal

*smuggling and their universal lying,—will place much reliance on the law of constraint which was substituted for the law of conscience.”*

But I have also the testimony of a more widely-known man and eminent minister of the Established Church of Scotland, the late Dr Norman M’Leod, with reference to the actual present state of the Sabbatarian question in Scotland. His words are of more weight, because they were addressed by him to a body of the Ministers of his own Church,—many of whom however, as a matter of course opposed him. Dr M’Leod first shows, that though professing to keep the Sunday strictly as a Sabbath, and solemnly enjoining their hearers to keep it, in obedience to the 4th Commandment, they did not really do this themselves! He says:—

“We do not keep the day.... we do not attempt to keep it, even in regard to work. Our servants and our ministers all do what no person living under the 4th Commandment would have dared to have done. This is simply a notorious fact. What effect has this? I think it has this effect, very strongly, of weakening morality. I think this course a most dangerous one. You are laying burdens upon the shoulders of the people that they cannot bear. You are training men up to one of the worst habits, that of believing in their consciences that a thing is wrong, and yet making it so that they are constrained to do it.”

But besides this “weakening of Morality,”—this sense of a discrepancy between the doctrine solemnly taught from the pulpit and in Catechizing, and the actual practice of the teacher himself, when a great *convenience* is treated by him as a *necessity*,—this divine proceeds to speak of the direct evils, which have followed from the efforts still made to maintain the Sabbatarian system in the Church of Scotland. He goes on to say:—

—“The 4th Commandment has produced in our country notorious Judaism—Judaism of the worst description, for which I have no respect whatever. Look at the Judaism of the nineteenth century; look at it, for example, in some parts of our own country in the north. I challenge [25] any Free Church Minister that he would dare to be seen using a razor and a brush on Sunday morning. He would not dare to do it. — — — There is this slavery to the letter over a great part of the country. The clergy themselves have become slaves: they have forged their own chains, from which they cannot escape. They have done so, I think, with honesty, drilling the people in the 4th Commandment and its details, until they are now in a position from which they cannot emancipate themselves, — — — But is this Judaism confined to different parts of the *country*? No: I think you see much of it in our own town, I grant you that there is freedom expressed in the sentiments that have been uttered to-day, which people would not have dared to have uttered twenty years ago: but I think that this is owing in a great measure to the freedom in Church-matters of Christian laymen, who are not so bound as we are. Let us be thankful for it. But I think that there is a vast deal of what I am complaining of in our City of Glasgow. What can be more Judaical than the stringent rules that are sometimes laid down? You may go and hear the organ or any musical instrument in the church; yet you dare not use the same instrument in the house. Then again, in regard to “walking on Sunday,”—I ask you what sentiments with some prevail! I myself lately mentioned, in a speech about a north park for Glasgow, that I thought on Sunday evening the people might walk out. This was commented upon, and, I must say, what was uttered made me, I might almost say, *tremble for*

*the condition we are in in Scotland*, and think that we are standing on the edge of a slippery precipice,—that consequences may ensue of which men are not aware, *as a resistance against such ignorance and such cruelty* — — — What did the General Assembly itself dare to say, in a pastoral address within my own memory, in 1834, when it spoke of ‘*walking*’ on Sunday, as ‘an impious encroachment on one of the inalienable prerogatives of the Lord’s Day?’ This is what I call Judaism.”—

When a minister of the Scotch Kirk can speak thus freely in the ears of brethren, it is a sign that a great change has passed already over the thoughts and feelings of that Church,—that light is beginning to break, upon this, as upon other subjects, on the eyes of intelligent Christians in Scotland.—

Of course, the larger part of the Presbytery present at that meeting, were against him; but some expressed sentiments on that occasion, which shows that a great departure had already taken place in pious minds in that country from the rigidity and strictness of the old Scotch system.

Thus one said: — “The municipal authorities of Glasgow, the responsible guardians of the working-classes, while they have of late years provided, in their spacious parks, a lounge during weekdays for the rich, have wisely and befittingly intended these also, as an innocent resort for the working-man and his family, when the Sabbath services of the day are over. And, if he be faithful in worshipping his God in the temple of grace, I for one delight to see him quietly and decorously ending his summer day in the vestibule of Nature.”—

Another said: — “I am not here to forbid, even if I could forbid, and I am glad that I cannot, the hard-wrought mechanic to get away from the very sight of the smoky scenes of his daily toil, and to enjoy the air, and the sunlight, and the joy of the fair earth. I am glad to meet, as I often do, pale-faced men and women, with their children in their arms or toddling by their side, on a Sabbath afternoon; for I know they are likely to go home more thankful, and cheerful, and good, than if they had been shut up all the day in some small apartment, opening off from a dirty common stair,”—

And a third observed: — “One would suppose from the way he (Dr. McLeod) spoke, that the people were in such terror of the 4th Commandment, that they dared not breathe the fresh air on the Sabbath evening,—that they were compelled to sit in their ill-ventilated houses, and not daring, from fear of this hated statute, to [26] go to the door. There may have been the time when this was the case in Glasgow, and there may be *some parts of the country in which this is the case still*. But, if anyone sees the Green on a Sabbath evening, or the Dennistown suburb, or the West- End Park he will see quite enough to satisfy him that the 4th Commandment exercises no such power over the people. and that this is only a dream of the imagination.”

I have thus quoted, rather largely for my space, what that eminent and liberal-minded man, Dr. McLeod, and a few of the more intelligent at that meeting of Presbytery said, with reference to the great question of “Sabbath Observance;”— hoping that some of my good Presbyterian friends,—or readers of these lines,—may be the more inclined to heed what some of the best of their own ministers have said upon it. And, further, to those who may wish to know a little more of Dr. Norman McLeod’s sentiments on this important subject, I would say,—Read (if you have not already done

so) his little interesting work called the *Starling*, where you will find what bigotry did in Scotland, (wearing, of course, as she always does, a truly righteous and orthodox dress!) in putting a right good and true Christian man—an elder, too!—out of the Church, merely because he simply hung ant a little cage containing the poor bird of his only bairn (lately deceased) on the old nail by the side of his door on the Sabbath! I very early got a copy of that book by Mail, which I lent to Sir Donald McLean. and I shall not readily forget how very much he was taken with it, nor his sensible words to me respecting it,—the story being so true, to the very life! The book should have a place in all our country Libraries.

3. And lest anyone *here* enjoying liberty—away from the Old Country—should think, or say, that Times are altered there *now*; that the Sabbatarian superstition is dead; I will further shew what a small benighted party *there*, at *present*, are even *now* attempting!—By this last English mail I have received an account of the unsufferable insolence of a small party in Scotland, calling themselves “the Sabbath alliance;” which speaks volumes, and which clearly unfolds what some (with liberty and conscience in plenty on their tongues) mean as to “the right keeping of the Sabbath.”

“SABBATH DESECRATION IN SCOTLAND.—The annual meeting of the Sabbath Alliance was held in Edinburgh, on June 20. The Rev. Dr Robertson, who presided, said, they could not shut their eyes to the fact that Sabbath desecration was increasing among the people. — — — From the Report it appeared that the North British Railway Company ran twice as many passenger trains on Sabbath, as all the other Scotch companies together. — — — The report went on to say,—‘Some special incidents took place in the course of the past year which caused considerable *anxiety* and *pain* to many Christian people in Scotland. During the Queen’s visit in September to Loch Maree, SHE and the Princess Beatrice, the Duchess of Roxburgh, and other members of the suite, were conveyed on the Sabbath across the loch in a six-oared boat to the Isle Maree, *where a considerable time was spent*. — — — it was *gratifying* to the committee to be informed, that the boatmen who usually ply on the loch *refused to go*, and that the hotel-keeper had been obliged to employ his own servants also, that the *worthy* innkeeper at Auchnasheen had *refused* to send, or even to convey letters to Loch Maree on the Lord’s Day. Your committee feel they would be guilty of a dereliction of duty were they to withhold their protest against such proceedings. — — — They cannot but feel *deeply-grieved* that the Royal Family should so *frequently* manifest disregard for the *sacred* day of rest.’ The Report then mentioned the arrival of the Prince of Wales at Hamilton Palace on Sunday, the 13th of January last, as another instance of Sabbath desecration. The Rev. G. Philip, Edinburgh, in moving the adoption of the Report, said, that there was a great deal of desecration of the Sabbath, not only by *glaring acts*, [27] such as those mentioned, but by idleness—that was shewn on Sabbaths by the number of persons seen standing idly on the streets. The Report was adopted,— — — the meeting considering that the principles of Sabbath observance were intimately connected with the prosperity of the country.”

How strongly this reminds us of those Pharisees of old, who said,—“This man is not of God because he keepeth not the Sabbath day.” (*John 9. 16.*) Those men should have the rough and ready old Scotch King, James I. (already mentioned), her Majesty’s ancestor, to deal with them and teach them common manners, and not a quiet Lady like our

present gracious Queen. (*Vide* the conference at Hampton Court before King James I., A.D. 1604.)

I say, therefore, that if such—or anything like it—is what Mr Sidey means by “the right keeping of the Sabbath,”—then I have no hesitation in saying, rather than that, I would prefer to see King James’ “Declaration and Book of Sports” again republished with authority among us; or see the Sunday kept at Napier as it is generally on the Continent.

It is a curious thing, and worthy of a passing notice, that throughout the whole world of Christians of various churches and denominations, *three* little Highland countries are at present given to the Sabbatarian superstition!

Ethiopia, Armenia, and Scotland. At this very day in the Highlands of Ethiopia there is a so-called Christian Kingdom, dating back from a very early age, where both days are kept in the same manner and with equal strictness, the seventh day and the first,—the Sabbath of the Jews and the Lord’s day of the Christians. And in the mountains of Armenia, we find another church, the Nestorian, in which, as a modern traveller says:—“The Sabbath is regarded with a sacredness among the mountain tribes, which I have seen among no other Christians of the East. I have repeatedly been told by Nestorians of the plain, that their brethren in the mountains would immediately kill a man, for travelling or labouring on the Sabbath; and there is abundant reason to believe that this was formerly done, though it has ceased since the people have become acquainted with the practice of Christendom on the subject.” (Prof. Baden Powell, *Christianity without Judaism*.)

I fancy that great civiliser, *Steam*, whether by water or by land—as the “iron horse,” will work wonders, ere long, in the way of opening the eyes of our Northern Countrymen, and help to cure them of this debasing superstition.

But do not mistake me; for in thus writing I am well aware of the existence of a branch of the Sabbatarian party in England, although it is but a very small, and (I hope) a daily lessening one. We know with what painful strictness the Sabbatical view of the Sunday has been carried out in several excellent families, often with the most serious detriment to the religious life of the children; while the general effect upon ordinary persons, of the graver and more decent sort, though not themselves professing to be more especially religious, has been truly and painfully described by the celebrated Mr Wilberforce (*Practical Views of Christianity*), as follows:—“The Sunday is, to say the best of it, a heavy day; and that larger part of it, which is not claimed by the public offices of the Church, *duelly draws on in comfortless vacuity*, or, without improvement, is trifled away in vain and unprofitable discourse. — — — — How little do many seem to enter into the spirit of the institution, who are not wholly inattentive to its exterior decorums! How glad are they to qualify the rigour of their religious labours! How hardly do they plead against being compelled to devote the *whole* of the day to religion, claiming to themselves no small merit for giving up to it a part, and purchasing, therefore, as they hope, a right to spend the remainder more agreeably! — — — Even business itself is recreation compared to religion; and *from the drudgery of this day* of sacred rest, they fly for relief to their ordinary occupations.” [28]

A few years ago some of the Bishops of the Church of England addressed a circular letter to the Directors of the English Railway Companies, calling upon them to put a stop to the practice of sending out “Excursion Trains” on

Sundays.—Seeking thus to debar their poorer brethren, who have no means of escaping from the crowded towns on the week-day, from any access, with their wives and families, to the blessings of the country, brought now within their reach by God’s good gift of railways; where they might see the wonders of God in creation and feel the soothing influences of Nature, when perhaps the voice of the preacher may have failed to reach them? Here the lines of one of our great English poets (Southey) seem so very applicable that I cannot help quoting them.—

Go thou and seek the House of Prayer!  
I to the woodlands bend my way,  
And meet Religion there!  
She need not haunt the high-arched dome to pray,  
Where storied windows dim the doubtful day;  
With liberty she loves to rove  
Wide o’er the heathy hill or cowslip’d dale,  
Or seek the shelter of the embowering grove,  
Or with the streamlet wind along the vale.

And just so, again, another great poet of our own day (Tennyson),—

And forth into the fields I went,  
And Nature’s living motion lent  
The pulse of hope to discontent.  
I wondered at the bounteous hours,  
The slow result of winter showers  
You scarce could see the grass for flowers.  
I wondered, while I paced along  
The woods were filled so full of song,  
There seemed no room for sense of wrong.

Our artizans, then, if the circular in question could have had its way, were to have been denied the refreshment for the overwrought body, that solace for the wearied mind, which the sight and taste of these pure joys of Nature are, by God’s own gracious ordinance, especially meant to give them. The rich might drive each day of the week along the green lanes, amidst the scented hay or the golden corn,—might “hear the wild music of the wind-swept grove,” or “mark the billows burst in silver light;” but the poor, on *the only day* on which they can (if they will) have a share in this enjoyment of nature, which their Father’s gracious care has abundantly provided for them,—a gift of this new time, a compensation, as it were, for some of the evils which our modern civilization has brought with it,—the poor were to have been deprived of their rightful liberty and enjoyment, under the mistaken notion of promoting the due observance of Sunday! Happily the Directors laid that unwise address quietly on the shelf, and gave *no reply* to it.—(Would that some here in Napier had duly remembered *this*.)

It must not be overlooked, that, both in England and in Scotland, (as we have already in part seen,) no small portion of the continuance of this Sabbatarian error is owing to the two National Churches. (1) That of Scotland, through her common teaching and *Shorter Catechism* (as I have already fully shown); and (2) that of England, through the enjoined reading of the 4th Jewish Commandment (together with the others) in the ears of the people, in the ante-Communion Service from the Communion Table (which some of her Ministers—Jewishly, Heathenly, or thoughtlessly,—like to miscall “the Altar”!!) At which reading by the Minister, the people have this prayer also put into their mouths,—“Lord, have mercy upon us, and incline our hearts to keep *this law*.” As one has said very truthfully and very forcibly,—“Consider the *weekly recitation* of the 4th Commandment, and the *response* to it, without one word of comment or qualification on the part of the Church; notwithstanding

that no one believes *Jewish Sabbath* to be either binding upon Christians or possible in modern life, and not the strictest Puritan of us all, not even Scotland herself, ever thinks of observing it as such, The immense variance, between the letter of this law and the most rigid practical interpretation of it, confounds all English ideas of sabbath-[29]- keeping and Sabbath-breaking, creates unnecessarily an awful *malum prohibitum*, and lays snares in the paths of innumerable honest men and women. If the 4th. Commandment be indeed a law of the Christians, it is too certain that all Christians deliberately break it. But, if it be a law of the Jews only, then all the scandal is chargeable upon those, who professing to have Divine Truth in their keeping, recite this law weekly from "the altar," as if it were part of the Sermon on the Mount! Such inconsistencies, *to those who will reflect upon them*, will appear far more important, and more fruitful of evil consequences, than most of us are aware of." —Here we are carried back to Dr Norman McLeod's truthful remark;— "What effect has this? I think it has the effect of *weakening morality.*"

A similar admission, in fact, is made in a volume of "Replies to Essays and Reviews," published under the express sanction of the late Bishop (Wilberforce) of Oxford, saying:—"Some schoolbooks still teach the ignorant that the earth is 6000 years old, and that all things were created in six days. No well-educated person of the present day shares in the delusion.——Whatever be the meaning of the six days, ending with the seventh day's mystical and symbolical rest, *indisputably we cannot accept them in their literal meaning.* They serve, apparently, as the divisions of the record of Creation, lest the mind may be too much burdened and perplexed by all these wonderful acts; but *they as plainly do not denote the order of succession of all the individual creations.*" Such is the statement made, under the authority of the (High-Church) Bishop of Oxford. And thus we can now no longer receive this account in Genesis as a record of historical or scientific fact. We see that it is only the attempt of a devout philosophic mind of those ancient times, to express in words the ideas, which either had arisen in his own mind, or which perhaps he had derived from others, as to the creation of the Universe

But, with the historical truth of the account of the Creation, is abandoned also the very basis, upon which the observance of the 4<sup>th</sup>. Commandment is based in the Book of Exodus. If it can no longer be believed that "in six days" God made the Universe, and rested on the seventh, then the whole basis of the traditional reason for Sabbatarian observance falls at once to the ground. No reasonable man can any longer suppose that these other laws were actually uttered with a Divine voice from the heights of Sinai; and, as I view it, all Church of England Ministers do wrong if they leave their congregations in doubt about this matter,— if they do not tell them plainly that, in reading those Commandments, beginning with the statement, "God spake these words and said,"—they are merely reading, in obedience to the directions of their Church, a passage from the Bible just as they read by the same authority the Psalms or the Athanasian Creed,—without committing themselves individually to the Psalmist's curses on his enemies, or to the damnable sentences of the unknown writer of the latter document.

It has often (especially of late years) been a matter of both surprise and pain to me, to see how commonly (habitually?) the Ministers of the Church of England read those words containing the old notion of the Creation of the World "in

six days," without any attempt at disabusing the minds of their congregations respecting it. Can it possibly arise from their training and habit? or from thoughtlessness,—the *not caring* to think, or the *suppressing* of thought? Surely, *some*, at least, of those Ministers must know that such was not the case ; that modern science has utterly disproved it? If so; why not (occasionally) tell their congregations as much, and teach them the truth! I need hardly repeat that, with our present knowledge,—*which is the gift of God*—it is no longer possible to regard these narratives as statements of matter-of-fact, historical, occurrences;— that no doubt now remains in the mind of any intelligent, well-educated person, that not even the one world in which we live—much less, the mighty Universe, of which it forms such an insignificant part—was [30] made "in six days," as the Bible statements, honestly interpreted, most certainly imply. But if, on the contrary some of the ministers still believe in the absolute truth of that old Hebrew notion,—all I can say is,—that it is no wonder that they find the people generally to care so little about "going to Church," and about their teachings, seeing they are so very far behind their flock, so *utterly ignorant of the truth*,—even in things which are commonly well-known now-a-days to school-boys.

I can only truthfully say for myself,— that were I now ministering to a Congregation, I could no more coldly [or "impressively"] read, pass by, or slur over, those strange aberrant formularies and portions of Church services (above mentioned), together with the old legends in the lessons from the Bible, *without explaining them* and telling my congregation why I read them,—then I could wilfully bear false witness against my neighbour, or defraud my creditors!

Of those Sabbatarians among us here in Napier,—who, with or without any thought on the subject, signed the Document against the calling of the Mail Steamers here on Sundays,— how many of them are there (I should like to know), who, when the English Mail arrives here on a Saturday evening or night—as is commonly the case,—are really willing to wait patiently till (say) the Monday *afternoon* before getting their letters? for, of course, if their views are correct, the Post Office Officials should not work until the Monday *afternoon*. Again: of those Sabbatarians how many are there who on the Sunday morning are quite willing and agreeable (without kicking the cat or scolding the maid) to go without Milk for their or their children's breakfast, &c., on the Sunday? Did they ever consider, when sipping their Hyslop or Coffee at breakfast,—how many poor souls have really transgressed the ancient Jewish Law of "Sabbath Observance," in many hours of heavy toil and work from before daylight, at Clive and at Taradale in milking, and in bringing their milk into town, to enable them to have a nice cup of tea or coffee, and their little ones a cup of milk? As Capt. Cuttle said, I would they would "just take a note of it."!

One thing more I feel inclined to mention, as it has a considerable bearing on our subject of "Sabbath observance;" particularly that side of it,—*the regular attendance at Church*, which, with some, is of the very greatest importance; especially now that such attendance is also become a matter of money and of commercial speculation: for much of this, however, my fellow-townsman will have to thank themselves. [I pretty well know that I shall displease a few by my plain remarks and statement, but that I must (*again*) bear.] I allude to the horrid money collections, which are now, at every "Divine

Service," never omitted, accurately made, and thought very much of. And, I may further say,—that I think I have a right to bring this matter forward, from the fact of my being the *only European* here who has always consistently opposed it; and I began early to do so. It was in the autumn of 1851 that the late Bishop of Lichfield, Dr. Selwyn, who was then the Bishop of New Zealand, paid his visit here. He staid a week at my house (Waitangi), and on the Friday he informed me, that he wished a Collection (or "Offertory") to be made on the following Sunday in the Church. This took me wholly by surprise; for (1) it had never occurred here before; and (2) the whole congregation of Maoris were utterly without money; I might, perhaps, have a few old coins in my desk, which had not seen the sun for years. On the Saturday I told the Bishop of our situation, and, also of my disliking his proposal (for many reasons), but that of course made little difference to him. So, on the Sunday, when the Bishop began to read the sentences in the Ante-Communion Service, he beckoned to his Maori travelling companion Rota, who came up to the Table, took from the Bishop a small black velvet bag (into which the Bishop put his gift) came to me, from whom he got nothing, and then, having tried some half-a-dozen of the Maoris [31] (who looked on in astonishment!), and also getting nothing from them, Rota returned with his bag to the Bishop. Again, soon after the opening of the first-built little part of St. John's Church here In Napier, some 15–16 years ago, a meeting of the Church Congregation was called, and the Rev Mr St. Hill wished to introduce the money collection or "Offertory;" this I again opposed as being the very opposite of the principles of the Gospel, and as mocking the poor who came to Church, [nearly all of us were poor in money in those days!] but I could only succeed in doing away with that of the Evening Service; and this was agreed to, but only held for a time! I remember saying on that occasion, that I for one would give £5 a year to have no collection on Sundays,—which was more than I should give supposing I attended every Sunday in the year and gave the customary shilling. A year or two after that I let the Churchwardens know, that I would keep to the old English rule, and only give on the Communion Sunday (*viz.*, the first Sunday of the month). But Mr Churchwarden Tiffen would, notwithstanding, persist in shoving his plate into my pew every Sunday,—of course he got nothing from me; however I very soon cured him of that, for I told him, that I would carry to Church copper pennies (the true big *old coin!*)—and if he ever shoved in his plate again (save on the Communion Sunday), he would get a big copper with a jingle! (my pew too being then next to his,) and I knew that others would follow suit. Mr Tiffen being "wise," kept out of it, and I was never again troubled with that plate.—For my own part I can conscientiously say, that I would not minister in a congregation where such an open support was given to Mammon and to Little-mindedness, to Pride-of-Life and to Backbiting. 'Tis in such matters that "the Devil" (whether that of Mr Oliver or any other person) is truly well served, and he laughs to his heart's content!! By all means let every Church—every Denomination—support its own Minister,—and *support the faithful one WELL*; but let that "be done decently and in order," and *not at the expense of mocking the poor*,—to whom the Gospel is *not now* preached. Fur it is evident,—both from *Advertisements*, and from the touting for and boasting of *money collections*,—that it is with too many Churches just a with the Theatres and other like performances,—*come with money in your pocket or you will not be welcome*. And this (such alas! is human nature) will be sure to act as a powerful lever in the matter of keeping up

the "Sabbath Observance" and the going to Church; possibly more so than the 4th Commandment and the thunders of Sinai! But when the time of solemn thought and of re-action comes, the Congregations will always have it in their power to put all such sordid trafficking down,—by *just acting as I did*.

Of one thing, however, I feel quite sure, —and from it I derive no small comfort,—that the time is coming when,—not only in this matter of "Sabbath Observance" but in all similar and kindred matters affecting true Religion and the whole well-being of Man,—the human race will no longer submit to be ruled or guided,—catechized, preached to, and prayed for, by any mere assuming family or clique of pretentious persons, but will assert their own inalienable birthright, and choose for themselves and for their children able and fitting guides and teachers both lay and clerical. And truly good and wise will the Ministers of the various Churches be in that day, if they heartily assist in bringing all needed Reform to pass.

No doubt, interested folks in Church and in State will ever strongly oppose this;—as, indeed, they have always done,—for no true Reform ever comes from *within!* and they may also, *for a time*, succeed; but such will not, can not, prevent the needed Reform,—scarcely, indeed, delay it,—and will only serve to make it the more complete and effectual when brought to pass.

Already, I may truly say, light is breaking all around, *the result of modern Biblical Criticism*; and to this I would [32] especially call the attention of all thoughtful members of the Church of England. They may see it in the *three* great works in reference to the Bible, which have been taken in hand by leading men in that Church under competent authority, viz. (1) *The new Lectionary*; (2) *the new Bible Commentary* "by Bishops and other clergy of the Anglican Church"; and (3) in the *new and corrected authorised version of the Bible* (not yet completed);—all however the results of Modern Bible Criticism; all professedly based upon the latest results of learned, as well as devout, study of the sacred oracles.

Take, for instance, the *New Lectionary*, (which, I believe, is in use here,)—some, perhaps many, of the hearers of its lessons read will have hardly noticed this fact, that now for the first time in the History of the Church of England the first 3 verses of the second chapter of Genesis are publicly read for a Sunday lesson in connection with the first chapter of that Book, as the closing portion of the account of the Creation contained in that chapter. Some of the regular congregation will have hardly perceived any difference has been made in that lesson for Septuagesima Sunday,—will have taken for granted that the same words were read on that day in their ears, which have been always read year after year ever since they were old enough to enter a church, and centuries before they were born. But a change has really been made by the lawful authority in that Church—small in appearance, but momentous in its consequences—one which opens up the whole question of Modern Biblical Criticism before the eyes of the whole congregation. But why is the Lesson for Septuagesima Sunday now for the first time made to end with the third verse of the 2nd Chapter of Genesis? A glance at the Bible will shew at once the reason. It is because the matter contained in these three verses is precisely similar in character to that contained in the whole first chapter,—and *quite distinct* from that which follows in the rest of the second chapter and in the third. The attention of thoughtful persons is thus directed to the fact, that there are TWO accounts of the Creation in the

Bible; written by *different persons* and at *different times* in the world's history and *widely differing the one from the other*. The old division of chapters, sanctioned by use and the pious ignorance of past ages, which has hitherto obscured the truth for most English readers, is once for all deliberately set aside, and reason and scholarship are at last allowed their due rights even in the treatment of Holy Scripture. As I view it, it is the duty of all the intelligent members of the Church of England to understand clearly the truth of this matter, which is now brought before them by the highest authorities; and it is certainly the duty of the Ministers (as many of them at least as are really able and willing to do so), to set that truth in a plain intelligible form before the eyes of their congregations. This little Lectionary, though simple in appearance, yet, being established by law in the Church of England, will be found, on close consideration, to involve principles which will tend to revolutionise the whole system of traditional teaching, admitting light and air into the long shut up, darkened and musty, chambers.—

Moreover, the *new Bible Commentary* (a portion of which *has only just been seen by me.*) admits that we have *no correct copy of the Ten Commandments* as really uttered by the Divine Voice on Sinai; and that "the *two distinct statements*" of them in Exodus and Deuteronomy, *though differing from each other* in several weighty particulars, "are *apparently of equal authority*" and "each is said, with reiterated emphasis, to contain the words that were actually spoken by the Lord, and written by Him upon the stones.—

— It has been generally assumed that the whole of one or other of these copies was written on the Tables of Stone. Most commentators have supposed that the original document is in Exodus, and that the author of Deuteronomy wrote from memory, with variations suggested at the time. Others have conceived that Deuteronomy must furnish the more [33] correct form, since the Tables must have been in actual existence when that Book was written. But *neither* of these views can be fairly reconciled with the statements in Exodus and Deuteronomy, to which reference has been made. *If either copy*, as a whole, *represents* what was written on the Tables, it is obvious that *the other cannot do so.*" We are also told,—that the Ten Commandments were, probably, originally uttered all in the same *terse* form as those which now remain, as, "Thou shalt not kill," "Thou shalt not steal," &c., and were, *afterwards*, considerably enlarged by Moses,—a supposition which is, of course, entirely opposed to the usual traditional notion. Thus, for instance, the 4th Commandment, as uttered by Jehovah on Sinai, was merely the brief injunction, "Remember the Sabbath-day to sanctify it"; it was Moses who *afterwards added* the further details, "Six days shalt thou labour, &c.," —but with the wonderful and perplexing *variations* and *additions*, in the *two* different accounts given in Exodus and in Deuteronomy as to the reason for keeping the "Sabbath;" and *both* equally said to have been authoritatively given by Jehovah himself! Further, this Bible Commentary instructs its readers that, generally, wherever they read in the Pentateuch, "And Jehovah spake unto Moses saying," they are to conclude—not that there was any audible utterance, but only—that Moses felt himself moved by an inward Divine impulse to enact certain laws, *which*, however, *he not unfrequently copied "from existing and probably very ancient and widely spread heathen institutions;*—*adopting existing and ancient customs,* with significant additions, *as helps* in the education of his people." And this Commentary also informs its readers, that "*it is by no means unlikely, that there are insertions of a later date,* which were written or

Sanctioned by the Prophets and holy men, who *after the Captivity*, arranged and edited the Scriptures of the Old Testament." (B.C. I. pp. 335, 494, 717, &c.)

The *new Translation of the Bible* is progressing, but it lies at present hidden in the secret chamber and not yet communicated to the world. May I live to see it published! I noted, however, that one of the most eminent of the translators, and a Bishop in the English Church, said openly in Convocation when this work was begun,—"I must own it is my belief that, when the Authorised Version has received all the amendments of which it is capable and which it absolutely requires, this will be found to have effected a very great change in many parts of the Bible ; and I think that one effect of this will be that it will deprive many of the clergy, and perhaps still more of Dissenting Ministers, of some of their most favourite texts. We ought not to conceal from ourselves that it will very materially alter the text of Scripture."

Three small matters, all: however, though diverse in kind, being steps in the right direction and highly significant, have also lately taken place here, at which I rejoice:—(1) The opening of our Athenæum News Room on Sunday afternoons: (2) The running of no less than 18 separate trains (going and returning) from Dunedin on the Sunday, between the hours of 9 morning and 6 evening: and (3) the alteration made by the Presbyterian Church, in doing away with their Sacramental *Fast-day* before that of their Church Communion.

To these I might justly and properly add, as a *fourth*,—the great and good matter of State Education—civil and scientific, reasonable and *truly religious*,—recently undertaken by the Government of our Country: but this is yet in its infancy, and would require a whole paper to do it justice. Thus much, however, I would say, as it bears greatly on our subject of "Sabbath Observance,"—that the sooner the various and dissonant *old Church Catechisms* are altered, (Like the *new Bible Commentary*, and the *new translation of the Bible*,) and so made conformable to truth, and to truthful religious and scientific teaching, the better for the children, (especially those at Sunday Schools,) and for the future [34] generation,—aye, for the rising state of New Zealand.—And here I would call attention to some solemn words of a late Archbishop of the English Church,—words well worthy of being weighed by all Teachers,—whether of Sunday or of Day School—by religions as well as scientific Teachers of all classes:—"He who propagates a delusion, and he who connives at it when already existing, both tamper with Truth. We must neither lead nor leave men to mistake falsehood for Truth. Not to undeceive, is to deceive. The giving, or not correcting, false reasons for right conclusions, false grounds for right belief, false principles for right practice,—the holding forth or fostering false consolations, false encouragements, or false sanctions, or conniving at their being held forth or believed,—are all pious frauds. This springs from, and it will foster and increase, a want of veneration for Truth: it is an affront put upon the Spirit of Truth." On these words I would ask *one* question—of *Ministers* and Sunday School Teachers. How can we serve the Living and True God, except so far as we are servants of the Truth? And how can we be servants of the Truth, if we knowingly shut our eyes to facts which *we do not like*, because they *conflict with our preconceived notions*; and if we not only do this ourselves, but attempt to close, or to keep shut, or to throw dust in, the eyes of others under our influence, that they may not be able

to see the facts which God's wise Providence, in this age of the world, has made known to us for our instruction and guidance in life?

Lastly, (before that I leave this part of my subject,) I will say, after more than 20 years serious study of the matter before me,—that it is my conviction, that these three facts may now be regarded as established by a very general consent of competent Modern Scholars, *not pledged* to the support of traditional views,—(1) That no part of the original story of the Exodus can have been composed before the time of SAMUEL: (2) That Deuteronomy was written not long before the Babylonish Captivity: and (3) that the Levitical legislation originated during the Captivity; by which the notion of the Mosaic authorship and infallible Divine authority of the whole, or indeed of any portion, of the Pentateuch is shown to be untenable.

#### IV. REASONABLY.

Including (1) *Theologically* and (2) *Humanly* or, in plainer words,—for the Glory of God and the Good of Man.

“*The Sabbath*,”—the Lord’s Day, the Sunday, the Day of Rest,—like all other good things,—“*was made FOR man.*” by his bounteous Creator. Let us ever bear this in mind.

And, *first*, let us seek to be delivered from a slavish spirit in respect to the old abrogated Jewish Sabbath-day; toss it overboard, have done with it: then, *secondly*, seek to realize that true “liberty” wherewith the Gospel of Jesus has made us free: and, *then*, we shall be able clearly to comprehend the true, the deep, meaning of those words,—“*The Sabbath was made FOR man.*”—For it is only by so doing that we can arrive at the true enjoyment of the Sunday as a Day of rest, *a Day of refreshing!* and learn to keep it in spirit and in truth with thankfulness of heart as a truly enjoyable day, a day which the Lord hath blessed; a day of strength-recruiting, a day of true refreshment both to body and soul, a day of worship, a day of social rejoicing, a day which the Bountiful Father has pre-eminently instituted for the good of his creature man!

The old saying still holds good,—“*Tot capita tot sensus*” (So many heads so many minds),—but, notwithstanding, by all (I suppose) this will be allowed,—that the *day* is given to us by Nature, and therefore by Nature’s God, for labour, and the *night* for rest; this is certain,—

“He appointed the Moon for seasons;  
The Sun knoweth his going down.— — —  
Man goeth forth unto his work,  
And to his labour until the Evening.” [35]

As a rule, then, there is a law laid upon us by the ordering of our Creator, that we should wake and work by day, and rest and sleep by night. It is, however, a law not meant to be enforced with strict severity, as if we might never work by night or sleep by day: it is a law made known by a wise Father to intelligent children,—by the Divine Reason to His reasonable creatures. The law of the interchane of day and night was “made for man,”—not man for the law. The law of daily toil and nightly rest is to be our *rule*, our general guide,—though we are left at full liberty, of our own free will, when we see occasion for it to depart from it. We know that, if we do depart from it constantly, without something to compensate the breach of Nature’s law, we shall suffer the consequences. It is God’s Law that the daytime shall be the time of labour for the *individual*, as

well as the time for social *common* work, for the setting forward of those labours which concern the welfare of the whole community. And so is it with regard to the week and the weekly rest. We need—at all events, in civilized communities, where there is such continual tension of the brain, and draining of the nervous energy—the recurrence of days of rest,—rest, not to be enforced upon us, from the necessity of a positive law, but rest commended to us by the wise provisions of our gracious Creator, and approved by universal experience to be a source of infinite blessing,—the right of the poor man as well as the rich,—as needful, in fact, for the wants of our physical, social, moral, and religious nature, as the rest by night after the toil of the day. “God has spoken this word to us,” *not* from the burning summit of Sinai, but in his Fatherly Wisdom and Goodness, and woe be to us if we refuse to heed His teachings. At the time of the French Revolution it was tried to alter every *seventh* (day of rest or ceasing to labour) to every *tenth* day, but it was found on trial not to answer, arid was pronounced by scientific men and physiologists, who had studied man’s nature and natural wants, to be insufficient.

I conclude, then, with all reasonable confidence, that one day out of seven has been graciously indicated by the Creator us a day of rest for labouring and weary men;—that, although the Hebrew philosopher in Genesis had no real historical basis for inserting in his cosmogony a sacred reason for the custom, which he found already existing among his people, and the observance of which he desired to enforce among them, yet there was a deeply grounded substantial truth in his assertion,—“God blessed the Sabbath- day and sanctified it.”

Let us consider in what sense, with reference to what wants of his nature,—“*the Sabbath*”—or day of rest—“*was made for man.*”

1. It is good, first, for his *physical* nature, that his nerves may be relaxed, the pressure taken off his brain, the sweat of toil wiped off his brow. We all feel that, while regular and constant employment is upon the whole the best condition for the health and vigour of all the faculties, it may be too constant—too wearying and exhausting—for body or mind. This becomes most evident, when a break intervenes, and *after the holiday* the tasks of daily life are renewed with a fresh spring of energy. This is felt most strongly indeed at the time of youth, when labours for the most part are carried on by compulsion, whether of parents or teachers, or of masters and employers. But it is not confined to youth alone: and, whether the muscles or the mind are at their full stretch, we know that they are the more fit for use after rest, or after such a change of action as amounts to rest. For *inaction* is not by any means always the rest of waking human creatures, and to the very young it is often irksome in the extreme,—and physically, as well as morally, injurious. Hence it is that to them the *Holy Day*—or Sunday, through the ignorance of parents and of Ministers,—is too often the very contrary of a *Holiday* (which it should be), and the notion of Heaven, *as an eternal Sabbath*, most distasteful and disheartening; while the *righteous* rebellion of all their faculties [36] and powers against the Sabbatarian restraints imposed upon them,—which is merely the *voice of that very nature which God has given them*,—has been too often most ignorantly and cruelly interpreted into a sinful aversion of the mind from God and his Laws! or to the listenings to the suggestions of the tempter or “Devil!!” [Whose *true personality*, with or without horns and hoofs, bat’s wings and tail, has lately

been so energetically preached to wondrous credulous audiences here in Napier!!! I need not say, to intelligent men, with what *serious* consequences, in too many cases, to the whole future life of the child. I believe, that to this cause,—perhaps as much as to any other, be traced the fact, that so many children of *pious*, but *unwise*, parents grow up ungodly and profane. Their whole notions of *religion* have been distorted from the first; their nature has been thwarted, their ideas of right and wrong confounded, their *true* spiritual growth dwarfed and stunted; till at length all their views about Religion have become embittered, gloomy, and morose; *they hate the very thought of it*, and turn with distaste from all mention of that “other God,” whom they have been taught and coerced to worship in a wretched servile way according to “the letter,” instead of the *One* only Living and True God;—our common loving Father, whose true service is delight, and only “in spirit and in truth,” and therefore ever in accordance with reason,—God’s best gift to man.

I say, then, for our *physical* nature we all need, as a rule, the rest of Sunday; but that rest should consist of REFRESHMENT of body and mind,—of a recruiting of both bodily and mental strength, as well as of mere relief, or cessation, from the six days toil, That refreshment—we must never forget—will be found differently under different circumstances; even as our common natural tastes differ for different kinds of food. And let no man judge his brother in this matter; to his own Master each much stand or fall. What is really wanted in this respect,—instead of mere dull inaction, or keeping quiet within doors,—is such pleasant exercise of mind or body, as shall best relieve the burdened system, and leave best fitted for the other uses, for which the Sunday rest is needed.—

But it may be, that you have had to work hard all the week (or working days), and on the Sunday morning you still feel too tired to rise and go to some Church—of which you may be a member, or a regular attendant. Don’t think for a moment you are doing what is right in so rising and so going to Church, and there spend your time sleepily; if you do so, you do what is wrong before God, who wishes you to take care of your body; your first duty (in such a case) is to remain in bed and rest. *Nature tells you so*; and you dare not resist her powerful voice. Rest is sweet for the wearied jaded body, therefore use the Sunday’s rest bountifully as it is bountifully given you for your bodies. Just so, again, with others, whose minds have in their varied mental occupations during the week been fully on the stretch; if you were to go to Church you would, in all likelihood, feel that you could not attend to anything as you ought to do:—Don’t then go, but take a walk, or a ride, or whatever kind of relaxation (which is your mind’s true rest) you feel will do you the most good, and strengthen and brace your mind for the duties of the coming week.

2. It is good for our *moral* nature, which requires rest no less than our physical. It is good that men should be able—at all events, for one day in seven—to shake off their secular chains, and realise that they are not bound as slaves for ever to cash-books and ledgers, to buying and selling, to the labors of the office, the bank, the workshop, and the study,—that they have a right, the very humblest and poorest among them, to go forth on this day in the dignity of Nature’s freed men, cleansed from the dust and stains of the weekly labors, released from its necessary, but often heavy, drudgery, clothed in their best, and lightened, as much as may be, of the burdens and cares of life, to enjoy the

sunlight [37] and the breeze, the sight of the broad earth, the sea, and the sky, to walk among the fields and flowers, the cornlands and pastures, and hear the song of birds, the ripple of the babbling stream, or, it may be, the mighty sound of ocean’s murmurings or tossings,—and to say with child-like reverence and confidence,—“It is our Father’s Hand which made them all!”

“Poor sons of toil! oh, grudge them not the breeze  
That plays with sabbath flowers; the clouds, that play  
With sabbath winds; the hum, of sabbath bees;  
The sabbath walk; the sky-lark’s sabbath lay:  
The silent sunshine of the sabbath day!”

3. Thirdly, our *religious* nature needs the day of rest, that we may have time to turn our thoughts within, and see how we are ripening for Heaven; see how we are making ready for the great account, and growing in the tempers of the children of God; that we may specially commune, each with his own soul and with the Great Creator; may seek His Face may study His Word and His Works,—may “acquaint ourselves with God, and be at peace” The true child of God will, indeed, have such communion with his Heavenly Father each day of his life. But, on other days, the cares and duties of the world intervene; they must more or less distract his thoughts, and engage his time, and they must be allowed to do so: for they are part of that six days’ work which God gives them to do, as He gives them also the day of rest.

On Sundays we may all meet together in the House of Him who is the Father of all! For this—Common Worship—is the highest and noblest of all the occupations of Sunday. It is true, very true, men may, and do, worship God in the closet at home,—or as they walk abroad in the depths of the forest, by the babbling stream, by the margin of the sea, or on the mountain top, or side. But in Religion, as well as in many other matters, it is not good for man to be always alone—it is not meant that he should be so. And the presence of many worshippers, joining together in common prayer and praise to the great Father of all,—feeding together on the same living bread,—drinking together freely from the same wine and milk, “without money and without price,”—bringing together their burdens of sorrow or of sin, their cares and troubles, or, it may be, their songs of deliverance, their tribute of thanksgiving, to the Adorable Source of all Light, and Life, and Blessing,—this union of many hearts tends to strengthen and deepen the Religious feeling of all; it helps us to realise more fully the fact that our spiritual being is a glorious reality,—that Communion is possible,—is actually taking place,—between the Father of spirits and His children upon earth; that we are members together of one great Family, one Church of the Living God.—

Yes: such happy seasons have been known—both in England and in New-Zealand; such may, yea *will*, be known again. But before that can possibly take place a *great change* is needed; a change affecting almost everything connected with Public Worship as it is now; a change in which both the Minister and the Congregation are all equally concerned; and that desirable change will again be known among the Churches when those who worship therein (including those who serve) shall become—as the old Hebrews had It—WHOLE-HEARTED in the matter of God’s Service. Then Sundays will be as they should be—Holy days and Holidays and Happy days: days of rejoicing and of refreshment. As dear George Herbert beautifully (though quaintly) says:—

"The Sundays of man's life  
 Threaded together on time's string,  
 Make bracelets to adorn the wife  
 Of the eternal glorious King.  
 On Sundays Heaven's gate stands ope;  
 Blessings are plentiful and ripe,  
 More plentiful than hope.

Thou art a day of *mirth*:  
 And, where the week-days trail on ground,  
 Thy flight is higher, as thy birth:  
 O let me take thee at the bound,  
 Leaping with thee from seven to seven.  
 Till that we both, being tossed from earth,  
 Fly hand in hand to heaven !"  
 [38]

4. Lastly our *social* nature needs above all the Sunday,—and for this end, we may reasonably believe, it is specially indicated. The Sun and Moon are set in the heavens to be for "signs" and for "seasons," not to single individuals but to *all*,—to all the human family together, and alike to all. How greatly are the joys of the Sunday-walk, of the Sunday-recreation, of the Sunday-holiday, intensified, by sharing them with others, with the members of our family, it may be, reunited from time to time; or with friends and neighbours, breathing with us the fresh air, and freedom, the cheering delights, of the day of rest! What support it also gives to the moral sense of man's higher nature and destiny, of his dignity above the brutes that perish, when by common consent the business of daily life is broken off, that all may meet together on that day at least, cleared from the week's defiling dust, not as masters and servants, as lords and laborers,—not as poor trembling slaves with scrupulous consciences under a "hateful" *Jewish* Law believed to be Divine!—but as fellowmen, upon the common ground of their humanity! and all alike as children of the One Great and ever loving Father.

Much has been done of late years in England towards the clearing away of some of the hindrances which prevented the larger number of the bulk of the people from enjoying to the full the Sunday rest—the Sunday *refreshment*—as He, who framed their being, has meant them to enjoy it; and it is to be hoped, that the Imperial Legislature there will soon clear away also the remaining ones. So that the people generally will no longer be debarred from access, during at least some part of the Sunday, to purer sources of delight in Gardens and Museums, in Aquariums and Galleries, where the wonders of Nature and the beauties of Art, the interesting remains of Antiquity, and the marvels of Science Discovery and Invention, are stored; and, therefore, will not be, (as heretofore) any longer impelled to seek other pleasures, of a gross and sensual kind,—more destructive to body and soul than continued honest labor; aye, driven (as they too long have been) by sheer vacuity of mind having no power, even if they would, to devote the "whole day" to religious thought and worship, being utterly incapable of such prolonged mental exertion,—having the Sunday on their hands, and not knowing what to do with it.

From the Annual Report of the Royal Gardens at Kew (London),—which have been lately thrown open to the Public on *Sundays* as well as on week-days,—I find the Director, Sir J.D. Hooker, says,— "The number of visitors to the Royal Gardens continues to increase annually; but always very many more on the *Sunday* than on any other day of the week. Total number on Sundays during the year, 359,237: total number on week- days, 340,189: greatest Sunday attendance (June 21st) 23,117." And yet, notwithstanding such immense crowds largely composed of

working people, the greatest order prevailed, and no injury was done to the plants: all being more or less delighted at the wonderful display of Nature's varied stores; which no doubt to some—and perhaps not a few—led on to higher and clearer Views of the Great Creator of all!

But still the glory of the Christian Sunday is Common Worship. And, whatever may be done, publicly or privately, to enlarge and to elevate the enjoyments of the working-classes on the Sunday, God forbid that it should not be done with a due regard to the Worship of Almighty God, which especially irradiates and dignifies the day, and casts a bright ray over all the week besides. For what is to be desired is, not that the Sunday should be secularised, but that the true Sunday spirit,—the spirit of Christian Trust and Hope, and Joy,—the spirit of childlike love and childlike confidence, the spirit of devout delight in the Word and in the Works of our adorable Creator,—and the spirit of brotherly love to help one another,—shall so penetrate our whole being, with the help afforded by the Sunday rest, that the secular six [39] days' work may be ennobled, purified, and sanctified.

The time is at hand, I trust, when the Heads of the Church of England both at Home and in the colonies, (to say nothing of those of other Churches,) instead of attempting with feeble hand to stay the wave of progress, will devote themselves heartily to the true work, which especially falls to their lot in the present day, and, instead of desperately clinging to that which is untenable in the traditions of the past, will endeavour "with just and firm hand" (to use the words of Mr Gladstone,) "to sever the *transitory* from the *durable*, and the *accidental* from the *essential*, in old opinions;" and, among other similar matters, will come to rest the observance of the Sunday on its *true* grounds,—physical, social, moral, and religious,—and not on the unsound, unreal basis, on which not a few of our fellow-Christians are still resting it;—will see how the happy healthful freedom of the Sunday may be best enjoyed by the working classes, without sacrificing its religious blessings,—how the great works of human genius, the works of God-gifted men, and the still greater works of creative wisdom, may be enjoyed in our Parks and Gardens, Museums and Galleries, without therefore emptying the various Churches and Chapels, or interfering with the proper rest of others. Aye, and that they will not overlook the smaller simpler matters, which largely affect the great bulk of the "lambs of their flocks" on Sundays,—to say nothing of their influence on them in after life. Such as, for instance, their being able *openly* and *honestly* to spend their Sunday holiday penny, in apples or in nuts, in lollies or in peppermint drops,—without going by a round-about and tortuous way to do it! through back-doors, and with hurried anxious glances up and down the street or lane, and by closing the doors stealthily after them that no one may see them! such, too, being often done, on their way to or from the Sunday School. Both Ministers and Parents, I fear, have long overlooked these *sad beginnings*,—this sure *neutralising of all sound Sunday School Teaching*,—this "*weakening of morality*," as Dr. N. M'Leod truly calls it. Here is a case in point, to hand this very day while I am writing these words, in one of the latest English Papers just received by the S.F. Mail,—which I quote entire as therein given.

"GUILDFORD BOROUGH BENCH.

On Monday before the Mayor (Mr Alderman Crooke), Mr Alderman Triggs, Mr Alderman Upperton, Mr D. Haydn,

Mr G. Smallpiece, Mr J. Weale, and Mr J. T. Sells, the following eases were heard:—

THE LORD'S DAY ACT.—Mrs Jane Triggs, a widow, keeping a small tobacconist and sweet-stuff shop in Northstreet, was summoned, at the instance of Mr Superintendent Law, under the Act of Charles II., for exercising her worldly calling on the Lord's Day. It appeared that *a sergeant went into the defendant's shop on a Sunday and purchased a penny-worth of peppermint.* A number of boys in the shop were also committing a like crime. The Mayor advised the defendant to close her shop on Sunday, but looking at the almost obsolete nature of the Act, the Bench declined to convict.

Now, while I honour and admire the noble conduct of that large and liberal Bench of English Magistrates, (who seem to have mustered strong and in a body on that occasion,)—what suitable words can I find in the English language to express my utter disgust at the conduct of those two over-officious police officers,—Superintendent Law and his fitting mate the Sergeant,—in their crusade against that poor widow! I have little doubt that they themselves, when boys, spent with much glee in like manner their Sunday holiday penny! And here I may also briefly add, as bearing on the foregoing,—that there was only one other case before that full Bench on that day,—viz. that of a man charged by a constable as being drunk and disorderly on the Saturday night. This, however, was amply and completely disproved by several witnesses, in spite of the exertions of Superintendent Law; so that “in the end the Mayor said, the conduct of the constable would be referred to the Watch [40] Committee, and the defendant was discharged without a stain on his character. The decision was received with loud cheers by a crowded Court. In the course of the hearing Mr White (the counsel for the defendant) took exception to the interference of Superintendent Law with one of the witnesses, and threatened if it were repeated to retire from the case.”—*Sussex Daily News*, Oct. 9th.

To return: We must never forget, that, if God has given us so freely the knowledge of Himself in the Holy Scriptures, which His Providence has “caused to be written for our learning,”—He has *also* given us in this our day most wonderful illumination by the LIGHT of the different Sciences, which all come to us from Him, who is “the Father of Lights, the Giver of every good and perfect gift.” So sudden, indeed, has been the growth of this light, that, even in the childhood of many of us, the very names of many of those Sciences were hardly known. Yet now we stand surrounded, as it were, with the blaze of their commingled radiance; and, in every well-ordered school, lessons will be taught to our young children, with respect to the age of man, the history of the earth's formation, the distribution of animal-species upon the face of it, &c., &c., which will be seen hereafter, as they grow in years and power of thought, if they are not already seen by them, to conflict entirely with certain well-known Scripture statements. You must not send your children to any superior school, where the elementary truths of Geological Science are taught, if you would have them kept in strict bondage to the mere letter of the Bible, and to the old traditional system of Scripture-teaching.

But no; we dare not do this; we dare not be wiser than God. When he is pleased to give us *light* we dare not shut our eyes to its shining, and determine still to grope on in obscurity. If the light of Modern Science comes from God—and surely we believe it does—it must be as great a

sin to despise or to disregard it, as to despise and disregard the Bible. And perhaps this very light of our own days, when the Bible is in every hand, may be given us in God's gracious Providence for this reason among others, that we may not make an *idol* of it;—that we may not read it with unreasoning acquiescence in every line and letter of the book, or rather that series or collection of books, written by different men in different ages, bound up in one, which we call the Bible,—but may read it with an intelligent faith, with the understanding as well as the heart. Thus we need not be disquieted though the progress of Modern Criticism should take from us much in the Scriptures, which perhaps without sufficient reason we had hitherto regarded as infallibly certain and true,—should show that the Scripture-writers were left to themselves, as men, in respect of all matters which God has meant to exercise our human industry, to be the objects of diligent, painstaking research. Our love must “abound in all judgment,” says the Apostle, in spiritual taste, discernment, insight, to “approve the things that are excellent,”—or, as the margin renders it, to “try the things that differ.” We must consider for what end the Bible is given to us, namely, to bring our spirits near to God; and we must seek, therefore, the inspiration of its writers, not in matters of Science or History, but in those words of Eternal Life, which come to us with a power that is not of this world, and find us out in our inner being, with messages from God to the soul. And how comforting it is to know that all words of this kind, which God our Father has spoken to us, “at sundry times and in divers manners,—whether by Prophets and Apostles, or by the lips of Jesus,—whether in the Bible or out of the Bible—stand firm and sure as God Himself is—as our own being is a reality—as our own moral consciousness, to which those living words appeal, is a sign that we are made in God's image!

I repeat, then, the views of God's character and doings, which we derive from the Bible, must be corrected and modified by those which we derive from other sources, by which he is pleased to reveal himself to Man. It is our Father's Will that so it should be—that our love towards Him should abound yet more and [41] more, in the clearer, fuller, knowledge of Himself, which the study of His Works supplies to us, no less surely than the study of His Word. We cannot be living as true men, we cannot be glorifying God, if we do not make use, according to our powers and opportunities, of each of these means of growing in this knowledge.—In the words of our great English poet—

“Let knowledge grow from more to more;  
    But more of reverence in us dwell,  
That heart and mind according well,  
    Make one music as before,  
  
But vaster. We are fools and slight;  
    We mock Thee, when we do not fear ;—  
O teach Thy *foolish ones* to hear,  
    Teach Thy vain world to bear *Thy Light!*”

Thus God Himself, “the Father of Lights,” by means of the facts which he has enabled us first clearly to ascertain in the present age, takes from us the Bible as an Idol which men have set up in their ignorance, to bow down to it and to worship it. But he restores it to us to be reverenced as the work of men in whose hearts the same human thoughts were stirring, the same hopes and fears were dwelling, the same gracious Spirit was operating, thousands of years ago as now. In those days of old there were prophets also, “preachers of righteousness,” according to their lights, as well as the lower order of priests to do the common daily task. And there are prophets still among us, raised up in this

as in every age, to speak God's word, the word of truth, to their brethren, whether in the pulpit or out of it. And that Living Word, which is the Light and Life of men, is speaking now to us in all those words of our fellow-men, which have brought us in any degree to the clearer knowledge of Him "whom no man hath seen or can see." But let us be sure that, as it is God who teaches us by means of our fellow-men, we may expect that He will speak to us so that we can hear and understand—that He will speak to our hearts and carry inward demonstration to our spiritual being—that *when He speaks His words will come home to us, and will be their own evidence.*

And now I will conclude my Paper with yet another suitable extract from that valuable modern work *On the Bible* by Dr Prebendary Irons, (from which I also quoted in the beginning,)—

"Above all things I earnestly request my fellow-Christians of every class, who may read these pages, to do so with patience and fearlessness, as in God's sight—even if the course of thought at first seem to them very trying. For, if what is said be all simply and undeniably TRUE,—then, to be angry with it, is but to 'fight against God.' — — — — Bitter words, and sneers, and persecutions, however refined, will fail. Let the appeal be to facts—to conscience—to reason. Yet a little while, and we must all give our account to Him who is the Truth."

#### POSTSCRIPT.

When I commenced this article I did not think of its being reprinted in the shape of a pamphlet; neither did I intend it to be so long. But so many expressed their opinion as to the desirableness of having it put into the form of a little Book that I gave my consent. Could I, however, have foreseen this, I should have written more fully in several places, where (owing to its being for the columns of a newspaper—in which I could not expect to be allowed much room) I was obliged to shorten considerably my remarks: moreover, I should also have more particularly noted the many quotations I have everywhere given from the works of far abler men than myself, of which I have made great use,—especially as to the edition, the volume, the chapter, and the page. Indeed, I am throughout more of a Compiler than an Original Author, and happy am I in having had it in my power to bring forward so many noble and independent, Christian and Scholarly authorities, Ancient and Modern,—of all ages, of all places, of all classes, and of all opinions—who are as *one* in this great and important question. May their united testimony have that *reasonable* weight with the readers of this little pamphlet which it has had with me

Napier, Dec. 14, 1878. [42]

#### SUMMARY.

I. INTRODUCTORY: the cause of this tract,—a Sermon by Rev. D. Sidey on "Sabbath observance," published in the Hawke's Bay Herald of September 9th; reasons assigned for my writing on this subject; a family newspaper believed to be the proper vehicle for all such matters; this view strengthened by the precedents of the Great Teacher and of his disciples; Ebn Ezra's profound saying respecting the law: particular statement concerning myself and what I venture to deem my peculiar fitness for coming before the public on this occasion; the reasons stated, somewhat

analogous to what obtains among Surgeons; Canon Perowne's comment on Ps. 119. vv. 99, 100, quoted; manner of taking-up the subject proposed; Emerson's beautiful saying on Persuasion or sacred courage quoted.

#### II. HISTORICALLY—

1. *Before the birth of Jesus* the Bible, what it really is,—not one complete whole in itself; this point long contested (mentally) by me, but found untenable; a few needful facts to be borne in mind respecting the Bible,—its several books not always written by the very persons whose names they bear;—written at various times throughout many years, and often added to and altered; other books of Scripture held by the Greek and Roman Churches as equally Canonical, which contain much of Divine instruction; the Jewish Sacred books (or rather writings, "books" being then unknown), all burnt by Nebuchadnezzar 600 years B.C.; how said to be afterwards reproduced; this strange story allowed by some of the early Christian Fathers; Dr. Prebendary Irons' opinion respecting this story, worthy of serious consideration; the extreme danger of believing the Bible to be Gods only Revelation of Himself to man; happily no necessity for this; *First* mention of the Sabbath as a rule to man,—afterwards found a Law among "10 Commandments"; *two* conflicting versions of these, both equally authoritative; question proposed—Did Moses really write the 5 books called the Pentateuch?; highly doubtful; solid reasons shown for disbelieving it; the great advantage arising from Modern Biblical Criticism, in clearing the character of our God and Heavenly Father; Sabbaths, as laid down in the so-called Mosaic Laws, not observed by the Jews *before* the Captivity; proofs given; of the writer of the Chronicles; these books fully shewn not to be historically true; Dr. Irons' plain statement concerning them of their containing monstrous tales as to numbers; the relative sizes of the Kingdoms of Judah and of Israel—or the holy land, altogether a small tract extending (say) from Napier to Cape Palliser! the writer of the Chronicles probably a Levite himself, and so intent (like too many priests) on magnifying his Office and class; *After* the Captivity great stress was laid by the Jews upon Sabbath observance; the reader's attention drawn to *two* "Isaiahs,"—widely different persons who lived 200 years apart, and whose writings are included under the *one* book of Isaiah; the ancient Jewish book—the *Talmud*—adduced; several quotations given from it, shewing the great probability of its having been well-known to Jesus, who also used many of its beautiful sayings, which have been commonly supposed to be original with him; the day of the New Moon, or *first* Sabbath of each month, of greater importance than the following common Sabbaths; Levitical law prescribes far greater sacrifices for the feast of the New Moon, or the first monthly Sabbath, which naturally ruled the other and commoner Sabbaths of the lunar month; the septenary division of time, or week, was known and observed by other nations—as Assyrians, Arabs, Indians, Peruvians, Greeks, and Romans; quotations from Dr. Kalisch, the celebrated modern Jewish Commentator on Genesis and Exodus; the Talmud on the weekly division of time,—how it originated with many different nations; Professor Baden Powell on the lunar month; so, also, Dr. Hessey in his Bampton lectures; the Hebrews, like most other Oriental nations, had 13 (lunar) months [43] in their year; of two remarkable modern discoveries,—(1) the *Moabite Stone*, and (2) the engraved *Assyrian tablets*,—both wonderfully assisting Modern Biblical Criticism; from the Assyrian tablets we gain much light,—we already know much of their astronomy, which proves to be marvellously

correct and agreeing with own; also, of the holiness of the number 7, as held by them and by the Jews,—cases in point adduced from the New Testament and, also, of the origin among the Jews of their modern notion of a “Devil,” and of demons, which they brought away with them from Assyria; from the Moabite Stone, well engraved in plain grammatical Hebrew, we learn the *truth* of the last war between Moab and Israel,—widely differing from the vamped-up legendary tale of the same war in the Book of Kings; this stone similar to that one raised by Samuel 230 years before and called Ebenezer; a word to Ministers and to Sunday School Teachers, will they hear it? reasons assigned for preferring the Moabitish to the Jewish story; of the yearly tribute of sheep, said, by the Jewish writer, to have been paid by Moab to Israel; the size of the petty kingdom of Moab, only a tract 40 x 10 miles!

2. *Time of Jesus and his Apostles:* Jesus with his followers kept the Sabbath in a free and liberal manner, and not according to the so-called Divine Mosaic laws, nor in accordance with the Pharisees of his day; ample proofs given from the New Testament,—and by other authorities,—shewing his doings and his teachings respecting the Sabbath; more also, on this head, to be gained incidentally from many of his other teachings and doings; in all which Jesus ever shewed himself as the true and faithful servant of the only true GOD; his apposite introduction of the sublime war-cry of his nation noticed; reasonable deduction from the premises, that Jesus did not acknowledge any Divine law from Sinai respecting the observance of the Sabbath.

3. *Time of the Apostles:* Paul, who had been a zealous Pharisee, evidently kept the Sabbath much as Jesus did; proofs of this from the N.T.; first Council held at Jerusalem gave no “burdens” to the Gentile converts respecting the keeping of the Sabbath, hence the Sabbath could not have been of Divine origin; proofs given; Paul, in all his many and varied rules awl instructions to several Christian Churches, says nothing about Sabbath observance; and in his Epistles to the Romans and to the Colossians he positively states the Sabbath-day to be no better than any other day; Dean Alford’s remark thereon in his Greek Testament; Paul’s depreciatory language to the Galatian Church concerning the Sabbath; Wheatly’s plain and truthful comment thereon.

III. ECCLESIASTICAL :—1. *Primitive:* for a time the Jewish Christian converts continued to assemble on the seventh (or Sabbath) day; soon, however, fell into neglect, through not having any Apostolical appointment; Bingham’s instructive statement thereon; early Ecclesiastical and Imperial laws wholly against the observance of the Jewish Sabbath; hence the sect of the Ebionites, and others, who observed the Jewish Sabbath, were condemned by the Council of Laodicea; Pope Gregory the Great’s statement concerning Antichrist and Sabbath observance; no Christian writers of the 1st and 2nd centuries ever attributed the keeping of Sunday to any Apostolical authority; ample proofs given; also, quotations from Justin Martyr, from St. Cyril, and from St. Jerome, all against the observance of the Jewish Sabbath; Jerome, also, incidentally shows how the Sunday was kept in his time,—a day of church service, of joy, and of common work; no Sunday league, no Sabbatarians then!

2. *Time of the Reformation:* quotations from the most eminent of the Reformers,—from Tyndal, from Luther, from Melancthon, from Calvin, and from others,—shewing their liberal views of the Christian Sunday; quotation from

Mr Sidey’s published sermon, showing his many errors in a small compass,— Historically (both Civil and Ecclesiastical), [44] and Chronologically, also in his severe and informal deductions therefrom; of King James and his “Declaration, or Book of Sports;” quotation from the King’s “Declaration;” quotations from the old Church historian, Fuller, shewing how all that was brought to pass by the superstitious Sabbatarians, with Fuller’s quaint and homely remarks thereon; fifteen years after that King Charles republished his father’s “Declaration,” but in a still milder form; obliged to do so through the opposition of the meddlesome Sabbatarian party; of a charge against Archbishop Laud on his trial, and his defence; the Church of Geneva (John Knox’s Own) allowed of Archery on Sundays, and Calvin there played at Bowls on that day.

3. *Modern:*—On the phrase used by Mr Sidey—“the right keeping of the Sabbath;” Mr Sidey’s views believed to be the very opposite of those of the Reformers and the Primitive Christian Church, of the Apostles and of Jesus; shewn (1) from the “shorter Catechism” (Presbyterian Church),—(2) Decrees of Kirk Sessions, and Acts of General Assembly Scotch Church,—(3) orders of Edinburgh Town Council,—and (4) statements of some Ministers of the Scotch Kirk, about their severe and “hateful” Sabbath observance laws, made in session before their brother Ministers —particularly those of Dr. Norman M’Leod, who spoke truly, bravely, thrillingly, as a true servant of God his remarks in part allowed by the Presbyterian ministers at that gathering, but of course, opposed; their peculiar Sabbath observance system has the dangerous effect of “weakening morality;” wretched (sanitary) state of Edinburgh, particularly on the Sunday under that old Kirk system of obsolete Jewish superstition ; Dr M’Leod’s excellent little work called “*The Starling*,” noticed; the late Sir Donald M’Lean’s favourable opinion upon it; of the present “Sabbath Alliance” party in Scotland, and their insufferably impudent Annual Report, containing language highly disrespectful against Queen Victoria,—a long quotation therefrom; how truly their words are in accordance with those of the Pharisees of the time of Jesus; they ought to have the Queen’s ancestor (James I.) to deal with them in his rough and ready way; reference to the Conference at Hampton Court, A.D. 1604 from all such “right keeping of the Sabbath” may Napier (and all N.Z.) ever be free ; better, of the two, to have King James’ “Book of Sports” republished here; curious, that, through out all Christendom, only the church of three petty highland countries, Ethiopia, Armenia, and Scotland,—cling to the Sabbatarian superstition; all three churches, too, being wholly discordant as to dogmas; Steam—the iron horse, the steam ship, and the press—will do wonders, and help to cure; but Sabbatarianism also in England, although only a small insignificant clique; Wilberforee’s truthful remarks on the melancholy comfortless British Sunday, quoted; a few English Bishops (some years ago) sought by letter to the Directors of the English Railway Companies to put a stop to excursion trains on Sundays! the Directors did not deign to reply—but wisely put it on the shelf; a selfish lot those English Bishops; apt remarks on their conduct; better had some in Napier not unwisely come forward with their letter to the Directors of the N.Z. Steam Navigation Company, to prevent the calling of our Mail steamers at Napier on Sunday; suitable quotations on *true Religion* from our English poets—Southey, and Tennyson; the Sabbatarian error largely bolstered up or supported by the two national British Churches—of England and of Scotland; already shown as to Scotland, by her Catechism and Church

decrees,—and as to England, by her Ministers repeatedly reading from the Communion Table [“Altar,” *sic!*] the old worn-out theory of God having ordered the Jewish keeping of the Sabbath-day, and that because he made all things in six days! Of the carelessness, or thoughtlessness, or “happy ignorance” of such Ministers; pious lies “the weakening of morality”; the Bishop of Oxford’s adumiasion respecting [45] the creation of the world in six days; the Writer could not (if now ministering to a congregation) allow his congregation to be so deceived, as to the constant using of those old Church phrases without due explanation; a word to Napier Sabbatarians, as to their Sunday letters from England, and their Sunday milk from the country; a word, additional, as to the possible zealous looking after regular Church attendance on the Sabbath, on account of the “bawbees”—or the horrid unchristian and novel Sunday money gatherings, now never omitted! the Writer’s particular reasons and right to call attention to this,—from the fact of his having *always* opposed it, and that, too, when single-handed, and at no little cost to himself; the same fully explained; the Writer would not minister in any church where such Mammon worship was carried on; how easily Napier congregations may escape such sordid traffic; how the “Devil” laughs at it! the Gospel is *not* now preached to the *poor*; no room in the church for them any more than in the theatre; come with *money*, or stay away! Of Church reform, of its *sure* approach, yet not likely to begin from within; another word to Ministers; of *Light* breaking all around, the happy result of modern Biblical Criticism; shewn, especially to members of the Church of England, in three great works,—(1) the *New Lectionary*,—(2) the *new Bible Commentary*,—and (3) the *new and Corrected Version of the Bible*; remarks thereon several striking quotations from the new Bible Commentary on the Mosaic laws, largely supporting what has been herein written; noticeable remark by a learned English Bishop in Convocation respecting the new translation of the Bible; three small matters all lately occurring here in New Zealand in favour of Christian Sunday freedom noticed,—*viz.* opening of the Napier Athenæum on Sundays—running of 18 trains to and from the advanced town of Dunedin on that day—and the Presbyterians formally setting aside their Sacramental fast-day; also, a fourth and a greater one,—that of the State schools, wherein *true Religion* will be taught; the absolute necessity of reforming the Catechisms of the Churches; solemn veracious words of a modern English Archbishop on teaching only the Truth; a home question to all Ministers and Sunday School Teachers—that is, to those with living tender consciences; the writer’s serious conviction respecting the age of the Pentateuch, after more than 20 years’ study of this matter, showing its Divine authority as utterly untenable.

IV. *Reasonably*,—including *theologically* and *humanly*: ever hold to this—“the Sabbath was made FOR man;” first seek to be delivered from the old slavish Jewish superstition respecting the Sabbath, then we may begin to understand it; the Sunday (or seventh day’s rest) should be a day of *refreshing*; day given for general labour and night for rest; remarks thereon and reasonable deductions drawn; (1) Sunday’s rest good for man’s physical nature; inaction alone not always rest, shown powerfully in children; Sunday often anything but a day of refreshment to them, owing to injudicious Ministers and parents; the righteous and natural rebellion of children against all restraint set down to their “sinful hearts,” or to “the Devil,” to the great and lasting injury of the poor child; plain remarks on the *personality* of “Old Nick”—recently preached up here in Napier to

credulous hearers! the true rest of Sunday, is *refreshment of body and mind*; the ways of obtaining this are various, differing almost with everyone, so that each must choose for himself; (2) the Sunday’s rest is good for our *moral* nature; shewn by its necessity, and by the effect the beauties of Nature and the Works of God have upon us; (3) the Sunday’s rest is needed for our *religious* nature; remarks thereon; Common Worship the highest and noblest of all Sunday occupations; men may and do worship God when alone; worship strengthened when done in fitting company; true child of God has constant communion with his Father; truly happy strengthening and sanctified Sunday seasons of Religious worship have often been experienced both in England and in NZ; such will be known again, when [46] Ministers and Congregations become WHOLE-HEARTED In that matter; then Sundays will again become days of rejoicing and refreshment; quotation from G. Herbert’s beautiful poem on Sunday; (4) our social nature needs above all the Sunday’s rest; the joys of the Sunday walk, the Sunday recreation, the Sunday holiday depicted; the great benefit arising from Sunday visits to Gardens—Museums—Aquariums—Galleries of Art and Science; quotation from official Annual Report of the Royal Gardens at Kew,—shewing the immense number of Sunday visitors, outnumbering those on *all* the other *six* days of the week taken together; of the great benefits to them; the Imperial Legislature should do all things possible in that direction, as such mental pleasures save from the grosser kinds; also the heads of the various Churches should act together for this purpose, both at home and in the Colonies; apt quotation from Mr Gladstone; both the State and the Churches should not overlook the smaller matters affecting the little wee folk,—who should be helped, honestly and openly, with an innocent face—to spend their well-earned Sunday holiday Id,—and so avoid the “weakening of morality”; a case in point given; a large Bench of liberal English Magistrates praised; over-officious Police condemned; Common Worship the Glory of the Christian Sunday; God has given us the knowledge of Himself in the Scriptures, and now in our day has also given us most wonderful and daily-increasing knowledge in many Sciences, which all alike come from one source—God; as great a sin to despise and disregard these gifts as to despise or to disregard the Bible; possibly all this Modern Light is intended (among other things) to teach us *not to make an IDOL of the Bible*,—towards which there long has been, and still is a tendency; comforting assurance—that all words of truth, whether in the Bible or out of the Bible, must ever stand—as sure as God himself; we should receive all that is TRUE; quotation from Tennyson; God still speaks in many ways to man,—whether by prophets (preachers and teachers)—in the pulpit or out of the pulpit,—or by priests; when He speaks His words will both be heard and known:

Conclusion, Dr. Irons’ good and Christian advice,—not to be angry,—not to speak or write bitterly against the Truth,—and so be found fighting against God.



**1878 Contributions towards a better Knowledge of the Maori Race.**  
*Transactions of the New Zealand Institute* 11: 77-106.

[Read before the Hawke Bay Philosophical Institute,  
 12th August, 1878.]

—"For I, too, agree with Solon, that 'I would fain grow old learning many things.'" —PLATO: *Laches*.

"Though this be madness, yet there is method in't." —  
*Hamlet*.

**ON THE IDEALITY OF THE ANCIENT NEW ZEALANDER.**

**PART I.—LEGENDS, MYTHS, AND FABLES.**

**§ 1. Introductory.**

I HAVE long been desirous of adding what little I may have gleaned on this subject during an extended sojourn in New Zealand; and I feel still the more inclined to do so through (1) it being now evening time with me, and (2) through my having noticed the many crude theories which have been broached concerning the *Whence of the Maori*, not a few of which, by their several writers, have been laboriously propped and buttressed with all and every item, however insignificant, far-fetched, and vague, they could possibly impress and bring forward, but in which, in my estimation, they have notwithstanding signally failed, because they laboured to build up a pet fancy or hobby of their own rather than the truth; some even starting with assuming the very proposition which they had to prove.<sup>300</sup>

For my own part, I altogether disclaim all such; I have no pet theory; I only seek the truth; to do what little I may towards establishing it; firmly believing, as I have already written,<sup>301</sup> that in the years to come this, too, will be found out and known.

For this purpose, then, I shall bring before you on the present occasion a few, out of the many, curious old legends, myths, and fables of the Maori, preferring those which I have known for many years, which have to do with natural and tangible objects, and which have not been tampered with or added to by Europeans, or by Maoris who had imbibed new and foreign ideas. [78]

Here, however, let me pause awhile to explain clearly, yet briefly, what I mean by the term *Ideality*: I mean that

300 WC: Plenty of this will be found in several volumes of the "Transactions N.Z. Inst.," which, although often attempted to be dressed up in a new fashion, is not new. I append a suitable extract on this subject from an old book, as the work itself is scarce and little known:—"I respect to the New Zealanders, some have imagined that they sprang from Assyria or Egypt. 'The god Pan,' says Mr. Kendall to Dr. Waugh, 'is universally acknowledged. The overflowings of the Nile, and the fertility of the country in consequence, are evidently alluded to in their traditions; and I think the Argonautic expedition, Pan's crook, Pan's pipes, and Pan's office in making the earth fertile, are mentioned in their themes. Query—Are not the Malay and the whole of the South Sea Islanders Egyptians?' To which we reply—When will the spirit of conjecture rest?"—Beauties, etc., of Nature, by C. Bucke; new ed., vol. ii., s. 79; London, 1837 (note).

301 WC: In *Essay on The Maori Races*; Trans., Vol. I., pp. 61, 62, 1st Ed.

superior faculty—that conception of the natural and beautiful, the truthful and symmetrical, which has ever been found to pertain to the higher races, or varieties of men, and in particular to the more gifted among them. As Cousin says (*On the Beautiful*):—"The *Ideal* appears as an original conception of the mind. ... Nature or experience gives me the occasion for conceiving the *ideal*, but the ideal is something entirely different from experience or nature, so that if we apply it to natural, or even to artificial figures, they cannot fill up the condition of the *ideal* conception, and we are obliged to imagine them exact." Kant lays it down—"By *ideal*, I understand the idea, not in *concreto* but in *individuo*, as an individual thing, *determinable* or *determined* by the idea alone."<sup>302</sup> On this subject, also, Emerson impressively writes:—"I hasten to state the principle which prescribes, through different means, its firm law to the useful and beautiful arts. The law is this: The universal soul is the alone creator of the useful and the beautiful; therefore, to make anything useful or beautiful, the individual must be submitted to the universal mind. ... Beneath a necessity thus almighty, what is artificial in man's life seems insignificant. He seems to take his task so minutely from intimations of Nature, that his works become, as it were, hers, and he is no longer free. ... There is but one Reason. The mind that made the world is not one mind, but *the* mind. Every man is an inlet to the same, and to all of the same. And every work of art is a more or less sure manifestation of the same. ... We feel, in seeing a noble building, much as we do in hearing a perfect song, that it is spiritually organic; that is, had a necessity in nature for being; was one of the possible forms in the Divine mind, and is now only discovered and executed by the artist, not arbitrarily composed by him. ... The highest praise we can attribute to any writer, painter, sculptor, builder, is, that he actually possessed the thought or feeling with which he has inspired us."<sup>303</sup> That delightful writer on Art, J. Ruskin—whether considered as artist or art critic—always in love with the Beautiful, and possessing the wonderful power of telling it in such charming language, says:—"I call an idea great in proportion as it is received by a higher faculty of the mind, and as it more fully occupies, and in occupying, exercises and exalts, the faculty by which it is received. ... He is the greatest artist who has embodied in the sum of his works the greatest number of the greatest ideas." Then Ruskin contrasts the old Venetian worker in glass, with his profusion of design, his personality of purpose, and his love of his art, with the British [79] worker with his mechanical accuracy. "Everything the old Venetian worker made was a *separate thing—a new individual creation*";<sup>304</sup> but the British worker does things by the gross, and has no personal interest in any one article.<sup>305</sup>

To this, from the Moderns, I would also add two short extracts from the Ancients. According to Cicero, there is nothing of any kind so fair that there may not be a fairer conceived by the mind. He says:—"We can conceive of statues more perfect than those of Phidias. Nor did the artist, when he made the statue of Jupiter or Minerva, contemplate any one individual from which to take a likeness; but there was in his mind a form of beauty, gazing on which, he

302 WC: Crit. Pure Reason.

303 WC: Essay on Art.

304 WC: Much of this re the old Venetian workman is truly relatively applicable to the old New Zealand worker.

305 WC: Modern Painters.

guided his hand and skill in imitation of it." (*Orator*, c. 2, 3.) And Seneca takes the distinction between ἴδος and ἔιδος thus :— "When a painter paints a likeness, the original is his ἴδος—the likeness is the ἔιδος or image. The ἔιδος is in the work—the ἴδος is out of the work and before the work."—(*Epist.* 58.)

Possibly some one may say, or think: "Do you really believe that any thing of that kind, or power, ever appertained to the mind of a New Zealander?" And my reply would be: "Yes, undoubtedly, and that in no small degree." And here we must be careful in discerning and considering, in order to arrive at a right conclusion.

The fragment of brown floating seaweed, when properly examined and considered, shows the hand of the Great Artificer as surely as the superb and symmetrical flower of the garden, the admiration of all beholders. In viewing the colossal architecture of the ancient Egyptians, we must beware how we compare it with that of ancient Greece, especially with the airy and flowery Corinthian Order. So, when we contemplate the modern Greek, untaught and unskilled peasant it may be, sauntering among the marble ruins of the cities and capitals of his forefathers, and thoughtlessly breaking up some exquisite creation of the gifted sculptor of ancient days, and the question of doubt arises in our minds as to the possible oneness of that race, we must not forget how sadly, how greatly, they have degenerated. Just so, then, in my estimation, it has been with the nation of the New Zealanders. They, too, have degenerated—sadly, surely, and quickly—particularly within the last half a century:

"Tis Greece, but living Greece, no more."

But do not mistake me, as if I meant to assert that they in their *Ideality* ever approached to that of the great Western nations which have been mentioned. Not so; but speaking comparatively, and in their degree, [80] and according to their own national conceptions, and to the circumstances in which they were placed by nature,—without a written language, or the use of metals, or beasts of burden, or any knowledge of, or communication with, the great world of mankind lying around them,—aye, more;—without teaching or instruction or communication of ideas (even among themselves!);—without the healthy incitement arising from competition with artists of other tribes, and of exhibition, and of praise from afar!—without even a probable certainty of his even completing what he had painfully devised and begun (all such being utterly precluded by their constant wars!); and without the slightest excitement of pay or reward, as things were never made for *sale* among them; and also with having a share (in common with the other members of his tribe) in the almost daily labours attendant on the cultivating and obtaining his food,—from which exertion no New Zealander in health, whatever might be his rank or intelligence, was ever exempt;—all these things being fairly weighed and considered,—this, this is the way in which they should be judged by us—

"They are—of the works of the Father,  
And of the one Mind the Intelligible.  
For Intellect is not without the Intelligible,  
And the Intelligible does not subsist apart from Intellect."  
—*Zoroast.*

The Maori of to-day is not worthy, in this respect, to carry the shoes of his forefathers. And he knows it; he feels it. Ichabod! or *Fuit Ilium*, may well be called upon them.

I, who have been, I may be allowed to say, long conversant with them, have no hesitation in stating, that the more I have seen and known of the works of the *Ancient* New Zealander, the more have I been struck with the many indications of their superior mind,—of their fine perception of the beautiful, the regular, and symmetrical; of their desire and labour after the beautiful; of their prompt and genuine, open and fearless criticisms.—in a word, of their great *Ideality*. And this high faculty of theirs which they possessed in an eminent degree, will probably be better known and understood hereafter than it is at present. It was their possession of that faculty, even in more modern times, which enabled them at a glance, and, as if by inspiration,<sup>306</sup> to detect inaccuracy or want of aesthetic conformity and exact precision in the skilled performances of their European visitors, and as quickly to declare it;—as in the martial exercises of the military (regulars), in the want of exact time in the rowing of boats by the most skilful seamen of H.M. navy;—and, in all their own works, to perceive instantaneously all such want of symmetry if present. [81]

That faculty was exhibited in many ways, *e.g.*:

In the building of their war-canoes with all their carving and many adornments; and that *without plan, pattern, or tools*. The exquisite regularity and symmetry of both sides of the vessel, including even that difficult one of carved concentric circles worked in filagree, were astonishing; and, as such, borne ample testimony to by all their first visitors.<sup>307</sup>

In the building of the highly ornamented houses of their chiefs.

In all their better carvings, with which every article of wood, of bone, of shell, or of stone, was profusely and boldly adorned—from the handle of a working-axe, or spade, to the baler for their canoes. Horace truly says—

"Pictoribus atque poetis  
Quidlibet audendi semper fuit æqua potestas,"<sup>308</sup>

to which, however, I would also add, *sculptoribus*; unless such may be considered as included in *poetis*; for Plautus affirms, "*Poeta ad eam rem.*"<sup>309</sup>

In their tattooing.

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306 WC: I use this word here in the Socratic sense, as by him in Plato, *Ion*.

307 WC: Vide Cook, Forster, Parkinson, and others, *passim*; also, Nicholas' "New Zealand," Vol. I., p. 48; II., p. 49.

308 Painters and poets have equal license in regard to everything.

309 WC: "One of the arts in which the New Zealanders excel is that of carving in wood. They often display both a taste and ingenuity, which, especially when we consider their miserably imperfect tools, it is impossible to behold without admiration. The N.Z. artist has no lathe to compete with, neither has he even those ordinary hand tools which every civilized country has always afforded. The only instruments he has to cut with are rudely fashioned of stone or bone. Yet even with these his skill and patient perseverance contrive to grave the wood into any forms which his fancy may suggest. Many of the carvings thus produced are distinguished by both a grace and richness of design that would do no discredit even to European art. Their war-canoes have their heads and sterns elaborately carved. On their musical instruments much time and labour is bestowed in the shaping, carving, and inlaying."—The New Zealanders, pp. 129, 131.

In their weaving, plain and ornamental, of many kinds and patterns (more than 200) of textile fabrics; and *all* simply done by hand!

In their chequered dogs'-skin, and kiwi-feathered, and red parrots'-feathered, cloaks.

In their making and twisting of threads, cords, lines, and ropes; many varieties of each.

In their ornaments—of feathers,<sup>310</sup> of greenstone, and of sharks' teeth. [82]

In their ornamented staffs of rank, carved and inlaid with mother-of-pearl, and decorated with quillets of flowing dog's hair, and red feathers.

In their symmetrical planting of their food, with faultless regularity, and all done "by the eye."

In their language; hence its great grammatical precision, its double duals and double plurals, its euphony, its rhythm, and its brevity, and its many exquisite particles and reduplications, both singular and plural, all highly pregnant with meaning, which almost defy translation into English.

In many of their songs and recitations; some plaintive and mild and full of love, others bold and martial; all natural and sympathetic.

In their possessing *diesic* modulations, or quarter-tones, in their airs and music.<sup>311</sup>

In their proverbs and sayings, and quaint laconic effusions; often abounding with wit and beauty of expression and depth of meaning.

In their legends, myths, tales, and fables.

In the regular sequence of their peculiar mythology, and of the beginning and formation of all things; all natural orders of living things having each a separate creator or progenitor.

In their polite and courteous behaviour, and true, open and free hospitality, often exhibiting the true gentleman.<sup>312</sup>

In their knowledge of many of the operations of nature, including the periodic return of the moon and stars, and the seasons.

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310 WC: Of their taste in feathers for decoration of the head, we have notable instances recorded. It is well known that the national taste in this respect was severely simple yet graceful. "Simplex munditius."—Hor.

"Plain in thy neatness."—Milton.

The New Zealanders preferring the snowy-white plumes of three birds in particular—the white stork, the albatross, and the gannet, and the black feathers, tipped with white, of the Huia (*Heteralocha gouldii*);—nothing, gaudy or of strong glittering colours was approved of by them; otherwise they could easily have manufactured such feathers from several of their indigenous birds. All this we have in the voyages of their earliest visitors, and in the plates. But in the principal plate (or the one ostentatiously intended to be such—the frontispiece) to Hochstetter's work on New Zealand (English edition), we have a Maori Chief with three peacock's feathers stuck in his hair!! a proof of their degeneracy in taste; or, as I believe, of the baser (inferior) taste of the English artist, who had merely learnt by rule, and who had no conception of the superior faculty.

311 WC: See Appendix to this paper; one highly interesting to trained musicians.

312 WC: Vide Nicholas' "New Zealand," Vol. I., pp. 24, 25.

In the faultless precision of bodies of them moving together, as if it were but *one* man! as in their paddling and dancing and in several games.

Now in all these matters, and more might be adduced, they ever showed their innate national taste, in which they were vastly in advance of our own British forefathers when first visited by Cæsar; although the Britons had many natural advantages, of which the New Zealander had never dreamed.

To return from our earliest intercourse with the Maori, two or three peculiar and strange traits and circumstances highly characteristic of him have been known. I allude to those respecting his belief in, and fear of, animals of the Saurian or Lizard kind. Settlers and colonists of to-day can form no correct idea of how a bold and daring New Zealand warrior, who feared not to meet his fellow foe in a stern hand-to-hand deadly fight, would blanch and run away in horror from a little harmless lizard! [83] yet this I have often seen. Why was this? was it that he really feared that little harmless animal? or was it that that tiny creature was to him the form and representation of a great, fearful, mischievous, and mysterious power, the deadly foe of man, ever hated and dreaded by all New Zealanders, and called an *Atua*, or demon? of which it was said—aye, and firmly believed—that it often gnawed the internal part of diseased folks, and so surely caused their death; or was it through their belief in those cherished legends of the olden time, that had been strictly handed down through many generations from father to son, containing the history of some dreadful monsters of the Saurian order, and which the prowess of their ancestors, aided by the charms and spells of their priests (*mark this*), had enabled them to vanquish and to overcome? Animals of such a huge and monstrous size as would comparatively leave the Megatherium and Mammoth far behind in the place of kittens!

And here I cannot help calling your particular attention to a very curious feature, which will prominently appear in the relations I shall have to give you—viz., that while the utmost exactitude is preserved in those strange stories—of time, and place, and persons, and of a certain amount of strong natural reality, yet not a single vestige of any osteological remains of any animal of the Saurian kind has ever yet been discovered! While, on the other hand, the fossil remains of many large and extinct *Sruthious* birds of several genera and species, and commonly known in the lump by the name of *Moa*, are to be met with in great abundance; and yet, of these realities, there are neither credible history, nor curious legendary tale, nor myth nor fable, that I have ever been able to lay hold of.

Captain Cook heard something of those large *Saurians* on his third voyage while at anchor in the Straits which bear his name; which, being but brief, I will give in his own words:—"We had another piece of intelligence from this chief, that there are lizards there of an enormous size. He described them as being eight feet in length, and as big round as a man's body. He said they sometimes seize and devour men; that they burrow in the ground; and that they are killed by making fires at the mouth of the holes. We could not be mistaken as to the animal, for, with his own hand, he drew a very good representation of a lizard on a piece of paper, in order to show what he meant." And this statement was further confirmed by Mr. Anderson, the surgeon to the ship, as appears from a *note* appended to that voyage, viz.:—"In a separate memorandum book, Mr. Anderson mentions the monstrous animal of the lizard kind,

described by the two young New Zealanders they had on board, after they had left the island.”<sup>313</sup> [84]

Mr. Nicholas, who accompanied Mr. Marsden on his first visit to New Zealand in 1814, says:—“While in the forests at the Bay of Islands, observing a hole at the foot of one of the trees, which evidently appeared to have been burrowed by some quadruped, we inquired of Kena what animal he supposed it was; and from his description of it, we had reason to believe that it must be the Guana. Wishing to know how far our surmise was correct, we desired our friend to thrust a stick into the hole, and endeavour to worry the animal out of it; but this he tried with no effect, for either it was not in the hole at the time, or, if there, not to be dislodged by such means. Kena, however, was rather well pleased than otherwise at not meeting with this animal; for his dread of it was so great, that he shrunk back with terror at the time he thought it would come out, nor did he examine the hole but with very great reluctance. This we thought very strange, for the Guana (the animal we took it for) is perfectly harmless. ... The chief, Ruatara, however, informed us that a most destructive animal was found in the interior of the country, which made great havoc among the children, carrying them off and devouring them, whenever they came its way. The description he gave of it corresponded exactly with that of the alligator. ... The chief had never seen the animal himself, but received his accounts from others; and hence it appears to me very probable that his credulity might have been imposed upon.”<sup>314</sup>

Captain Cruise, of the 84th Regiment, who came to New Zealand in H.M.S. ‘Dromedary’ five years after Mr. Nicholas, and who resided in this country ten months, gives in a few words an interesting notice of the abject fear exhibited by the Maori at the mere sight of a small lizard! which, as it is (or was) so truthful—as I have too often myself witnessed—I also quote:—“A man who has arrived at a certain stage of an incurable illness, is under the influence of the *Atua*, who has taken possession of him, and who, in the shape of a lizard, is devouring his intestines; after which no human assistance or comfort can be given to the sufferer, and he is carried out of the village and left to die. ... This curious hypothesis was accidentally discovered by one of the gentlemen, who, having found a lizard, carried it to a native woman to ask the name of it. She shrunk from him in a state of terror that exceeded description, and conjured him not to approach her, as it was in the shape of the animal he held in his hand that the *Atua* was wont to take possession of the dying, and to devour their bowels.”<sup>315</sup>

In various parts of this island, but all to the north of Napier, I have had shown me when travelling (1834–1844), many spots where it was said monsters of the Saurian Order had formerly dwelt. [85]

Thirty-five years ago, when journeying along the East Coast, between Cape Kidnappers and Castle Point, on reaching the top of the high hill or range situated between Waimarama and Te Apiti, named Marokotia, my attention was called to a remarkable rift or chasm at the head of the glen just below me, on the east or sea side of the old Maori track or pathway. This, I was told by the old chiefs of the coast who were with me, was in ancient times the dwelling of a monster Saurian, named Hinehuarau; that it burst away from this place,

tearing and rending all before it, and so went on south until it reached Wairarapa, where it was subsequently killed by a chief of note of ancient days, named Tara, whose name he gave to the lake near Te Aute, “Te Roto-a-tara.”

Some time after I was again in the Wairarapa Valley, and hearing so much of the “bones,” or, as some said, “the head,” of this monster being yet to be seen in the place where it was slain, away among the hills, I purposely walked thither from a village called Hurunuiorangi to see them. It was rather a long and rough walk to the place among the hills on the other side of the Ruamahanga river. Arriving there, I found the said “bones” to be a heap or knob of yellowish, friable, glittering, quartz-like stone (calcite), which cropped out from the hill-side and lay in large lumps. I remember well how angry one old Maori became, who was of the party with me, on my asserting that the pile before us was not bone at all but stone. Very likely those natives had never seen any other stone like it (up to that time I had not). It bore, at first sight, a resemblance to the yellow decaying bones of a whale. I think the spot was called Tupurupuru, and that it is not very far from the head waters of the river Taueru.

Such places, however—caves, rifts, chasms, and strange-looking stones—are by no means unfrequently met with in travelling in New Zealand, especially when journeying (as I was obliged to do) along the old foot-paths, which mostly led over ridges of hills; and there are plenty of such stories concerning them, each spot having its own peculiar myth or legend, which was once most certainly believed.

I have also more than once seen another curious spot in this neighbourhood (Hawke Bay), which deserves recording, the more so, perhaps, from the fact of its being no longer to be seen as I saw it. It was on the low undulating grassy banks of the river Waitio. There, at that time, was a huge earthwork representation of a *ngarara*, or *ika*, i.e., a lizard, or crocodile, which, several generations back, had been cut and dug and formed in the ground by a chief of that time named Rangitaurira, who, in doing so, had also dexterously availed himself of the natural formation of the low alluvial undulations in the earth. It had the rude appearance of a huge Saurian extended, with its four legs and claws and tail, but crooked, [86] not straight, as if to represent it wriggling or living, and not dead. It was many yards in length, and of corresponding width and thickness, and by no means badly executed. On two occasions, in particular, in travelling that way, as we generally rested there on the banks of the stream, the old Maori chiefs with me would diligently use their tomahawks and wooden spades in clearing away the coarse grass and low bushes growing on it in its more salient parts, so as to keep its outline tolerably clear, reminding me of what has been said of the periodical scouring in the Vale of the White Horse. The natural vegetation of the place was well suited for the purpose of preserving it, being mostly composed of our (Hawke Bay) common carpet or mat grass (*Microlana stipoides*) and a low-growing *Muhlenbeckia* (*M. axillaris*),<sup>316</sup> but in those days no foot of man trod on it, and of beasts there were none!

This curious earth-work was called Te Ika-a-Rangitaurira, that is, that that Saurian outline was made or formed by a chief whose name was Rangitaurira. He was an ancestor of the chief Karaitiana (M.H.R.), and of several other chiefs

313 WC: 3rd Voyage, Vol. I., pp. 142, 153.

314 WC: Narrative, Vol. II., pp. 124, 126.

315 WC: Journal, pp. 283, 320.

316 WC: It was here that I discovered that pretty little and very scarce plant, *Stackhousia minima*.

and sub-tribes now living here in Hawke Bay; he lived nineteen generations back; one of his residences was a large *pa* called Te Mingi, on the Tutaekuri river. He formed this design, or earth-work (which originally consisted of *three* Saurian outlines) in remembrance of his having returned from that spot with his fighting party. They had left their own *pa* to attack another on the east side of the Tukituki river, but being here overtaken by daylight abandoned their design. First, however, forming and leaving there those three monsters, to indicate to the people of the *pa* they had set out to attack, how they had intended to serve (*i.e.* devour) them. This chief subsequently met with his death in returning from the Patea country in the interior, through being overtaken by a violent snow-storm, and taking refuge in a cave called Te Reporoa (on the *lower* passes of the Ruahine mountain range) where he and those with him miserably perished in the snow! His younger brother, who persevered and kept on his journey, escaped. Consequently for many years this chief's huge earthwork was attended to and kept clear of coarse weeds by his descendants in commemoration of him.

I now proceed to give you some of those old legendary tales, for which I have been preparing the way, premising that these are all fair translations from the original Maori as I received them, and without any addition. Like most translations, however, they lose much of their striking original character and beauty in attempting to clothe them in a foreign dress. [87]

## § 2.—Tales.

### THE STORY OF THE DESTRUCTION OF MONSTERS.

#### *1. The Slaying of Hotupuku.*

Here is the tale of the valiant deeds of certain men of old, the ancestors of the chiefs of Rotorua. Their names were Purahokura, Reretai, Rongohaua, Rongohape, and Pitaka; they were all the children of one father, whose name was Tamaihutoroa. As they grew up to manhood they heard of several persons who had been killed in journeying over the roads leading by Tauhunui and Tuporo, and Tikitapu,—all places of that district.

People of Rotorua who had travelled to Taupo, or who went into the hill country to meet their relations, were never again heard of; while the folks of the villages who were expecting them were thinking all manner of things about their long absence, concluding that they were still at their respective places of abode; but, as it afterwards turned out, they were all dead in the wilderness!

At last a party left Taupo on a visit to Rotorua, to travel thither by those same roads where those former travelling parties had been consumed. Their friends at Taupo thought that they had, arrived at Rotorua, and were prolonging their stay there; but no, they, too, were all dead, lying in heaps in that very place in the wilderness!

Afterwards another travelling party started from Rotorua to Taupo; this party went by the lakes Tarawera and Rotomahana, and they all arrived safe at Taupo. On their arrival there many questions were asked on both sides respecting the people of Taupo who had gone to Rotorua, but nothing whatever could be learned of them. On hearing this the people of Taupo earnestly enquired of the newly-arrived party from Rotorua, by what road they came? They replied, "We came by the open plain of Kaingaroa, by the

road to Tauhunui." Then it was that the people of Taupo and the party from Rotorua put their heads together, and talked, and deeply considered, and said, "Surely those missing travellers must have fallen in with a marauding party of the enemy, for we all well know they have no kinsfolk in those parts." Upon this the Taupo people determined on revenge, and so they proceeded to get together an army for that purpose, visiting the several villages of Taupo to arouse the people. All being ready, they commenced their march. They travelled all day, and slept at night by the road-side; and the next morning, at daylight, they crossed the river Waikato. Then they travelled on over the open plain of Kaingaroa until they came to a place called Kapenga, where dwelt a noxious monster, whose name was Hotupuku. When that monster smelt the odour of men, which had been wafted towards him from the army by the wind, it came out of its cave. At this time the band of men were travelling onwards in the [88] direction of that cave, but were unseen by that monster; while that monster was also coming on towards them unseen by the party. Suddenly, however, the men looked up, and, lo! the monster was close upon them; on which, they immediately retreated in confusion. In appearance, it was like a moving hill of earth! Then the fear-awakening cry was heard, "Who is straggling behind? Look out, there! A monster, a monster, is coming upon you!" Then the whole army fled in all directions in dire dismay and confusion at seeing the dreadful spines and spear-like crest of the creature, all moving and brandishing in anger, resembling the gathering together of the spines, and spears, and spiny crests, and ridges of the dreadful marine monsters of the ocean. In the utter rout of the army, they fell foul of each other through fear, but, owing to their number, some escaped alive, though some were wounded and died. Then, alas! it was surely known that it was this evil monster which had completely destroyed all the people who had formerly travelled by this way.

The news of this was soon carried to all parts of the Rotorua district, and the brave warriors of the several tribes heard of it. They soon assembled together, 170 all told, took up their arms, and marched even until they came to Kapenga in the plain, and there they pitched their camp. Immediately they set to work, some to pull the leaves of the cabbage-tree (*Cordyline australis*), others to twist them into ropes; then it was that all the various arts of rope-making were seen and developed!—the round rope, the flat rope, the double-twisted rope, the three-strand rope, and the four-sided rope;<sup>317</sup> at last the rope-making was ended.

Then the several chiefs arose to make orations and speeches, encouraging each other to be brave, to go carefully to work, to be on the alert, and to be circumspect, and so to perform all the duties of the warrior. All this they did according to the old and established custom when going to fight the enemy.

One in particular of those chiefs said—Listen to me, let us go gently to work; let us not go too near to the monster, but stay at a distance from it, and when we perceive the wind blowing towards us over it, then we will get up closer, for if the wind should blow from us to the monster, and it smells

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317 WC: This was still the custom in late years; their strongest common ropes were made from the leaves of the cabbage-tree, after steeping them in water, and a strong and very peculiar kind of 4-sided rope was made by them of it. I have had such made for me, but I almost fear the art is lost. Flax (or Phormium) leaves would not be suitable.

us, it will suddenly rush out of its cave, and our work and schemes will be all upset." To this advice the chiefs all assented, and then the men were all properly arranged for each and every side of the big rope snare they had contrived and made, so that they might all be ready to pull and haul away on the ropes when the proper time should come. [89]

Then they told off a certain number to go to the entrance of the cave where the monster dwelt, while others were well armed with hard-wood digging spades<sup>318</sup> and clubs, with long spears, and rib-bones of whales, and with short wooden cleavers or halberds. Last of all, they carefully placed and laid their ropes and nooses, so that the monster should be completely taken and snared in them; and then, when all was ready, the men who had been appointed to go up to the mouth of the cave to entice and provoke the creature to come forth, went forwards; but, lo! before they had got near to the cave, the monster had already smelt the odour of men.

Then it arose within its cave. And the men who had gone forth to provoke it heard the rumbling of its awful tread within the cave, resembling the grating noise of thunder. Notwithstanding, they courageously enticed it forwards by exposing themselves to danger and running towards it, that it might come well away from its cave; and when the monster saw the food for its maw by which it lived, it came forth from its den ramping with joy.

Now this monster had come fearlessly on with open mouth, and with its tongue darting forth after those men; but in the meanwhile they had themselves entered into the snares of ropes, and had passed on and through them, and were now got beyond the set snares—the ropes, and nooses, and snares, all lying in their proper positions on the level ground.

At this time those men were all standing around below when the huge head of the beast appeared on the top of the little hill, and the other men were also ascending that hill and closing in gradually all around; the monster lowered his head awhile and then came on, and then the men, the little party of provokers, moved further away on to the top of another hillock, and the monster following them entered the snares! At this the men on that little hill stood still, then the monster moved on further and further towards them, climbing up that ascent also, so that when its head appeared on the top of that second hillock its fore legs were also within the set loops of the big snare.

Then it was that the simultaneous cry arose from the party who were standing on the top of the little hill watching intently, "Good! capital! it has entered! it is enclosed! pull! haul away!" And that other party, who were all holding on to the several ropes, anxiously waiting for the word of command, hearing this, pulled away heartily. And, lo! it came to pass exactly as they all had planned and wished for—the monster was caught fast in the very middle of its belly. [90]

Now it began to lash about furiously with its tail, feeling more and more the pain arising from the severe constriction of its stomach by the ropes.

Then the bearers of arms leaped forth. A wonderful sight! The monster's tail was vigorously assaulted by them; they stabbed it over and over with their hardwood digging picks

318 WC: This implement (called a ko) might be just as well termed a lance, or pick; it was narrow, pointed, and 6–7 feet long, and used for digging fern-root, &c., and sometimes, as here, as an offensive weapon.

and their long spears, and pounded it with their clubs, so that even its head felt the great amount of pain inflicted on its tail, together with that arising from the severe constriction of the ropes on its softer parts. Now the monster began to rear and to knock about dreadfully with its head; on seeing this, the enticing band of provokers, who had still kept their position in front, again began to entice it to make straight forward after them, by going up close to it and then running away from it, when, on its attempting to stretch out after them, they suddenly faced about in a twinkling, and began to play away upon the monster's head with very good effect. Oh! it was truly wonderful to behold!

By this time, too, the party of rope-pullers had succeeded in making fast all their ropes to the several posts they had fixed in the earth all round about for that purpose; this done, they also seized their weapons and rushed forward to assist their comrades in beating the monster's head—this being now the part of it which reared and knocked about the most violently. Now, the assault on its head was carried on alternately by those men, combined with the others who began it, and who for that purpose divided themselves into two parties, when one party rushed forward and delivered their blows, and the hideous head was turned towards them, and they fell back a bit, the other band came on on the other side and delivered their battery, either party always beating in the same place. After a while the monster became less vigorous, although it still raged, for its whole body was fast becoming one vast mass of bruises through the incessant and hearty beating it was receiving.

Still the fight was prolonged; prodigies of strength and valour, ability, and nimbleness were shown that day by that valiant band of 170, whose repeated blows were rained upon the monster. At last the monster yielded quietly, and there it lay extended at full length on the ground, stretched out like an immense white larva<sup>319</sup> of the rotten white pine wood, quite dead.

By this time it was quite dark; indeed, night. So they left it until the morning. When the sun appeared they all arose to cut up this big fish.<sup>320</sup> There it lay, dead! Looking at it as it lay extended, it resembled a very [91] large whale,<sup>321</sup> but its general form or appearance was that of the great lizard,<sup>322</sup> with rigid spiny crest, while the head, the legs, feet, and claws, the tail, the scales, the skin, and the general spiny ridges, all these resembled those of the more common lizards (*tuatara*). Its size was that of the sperm whale (*paraoa*).

Then this man-devouring monster was closely looked at and examined for the first time—the wretch, the monster, that had destroyed so many persons, so many bands of armed men and travelling parties! Long, indeed, was the gazing; great was the astonishment expressed. At last, one of the many chiefs said, "Let us throw off our clothing, and all hands turn to cut up this fish, that we may also see its

319 WC: The word is huhu. I suppose this large grub has been selected for a comparison owing to its dying helplessly extended, and its plump, fat appearance.

320 WC: I have translated this word (ika), wherever it occurs in the story, by "fish," this being one of its principal meanings; but it would carry a very different one to a New Zealander. Here it would be just synonymous with whale, or large marine animal.

321 WC: Nui tohora.

322 WC: Tuatete, the angry, frightful lizard, now extinct.

stomach, which has swallowed so many of the children of men.<sup>323</sup>

Then they began to cut it open, using obsidian and pitch-stone knives, and saws for cutting up flesh made of sharks' teeth, and the shells of sea and of fresh-water mussels (*Unio*). On the outside, beneath its skin, were enormous layers of belly fat (suet), thick and in many folds. Cutting still deeper into its great stomach or maw, there was an amazing sight. Lying in heaps were the whole bodies of men, of women, and of children! Some other bodies were severed in the middle, while some had their heads off, and some their arms, and some their legs; no doubt occasioned through the working of the monster's jaws and the forcible muscular action of its enormous throat in swallowing, when the strong blasts of its breath were emitted from its capacious and cavernous belly.

And with them were also swallowed all that appertained to them—their greenstone war-clubs, their short-knobbed clubs of hardwood, their weapons of whales' ribs both long and short, their travelling staves of rank, their halbert-shaped weapons, their staffs and spears—there they all were within the bowels of the monster, as if the place was a regular stored armoury of war. Here, also, were found their various ornaments of greenstone for both neck and ears, and sharks' teeth, too, in abundance (*mako*). Besides all those there were a great variety of garments found in its maw: fine bordered flax-mats; thick impervious war-mats, some with ornamented borders; chiefs' woven garments made of dogs' tails, of albatross feathers, of *kiwi* feathers, of red (parrot) feathers, and of seals' skin, and of white dogs' skin; also, white, black, and chequered mats made of woven flax, and garments of undressed flax (*Phormium*), and the long-leaved *kahakaha* (*Astelia*, species), and of many other kinds. [92]

All the dead bodies, and parts of bodies, the conquerors scooped out and threw into a heap, and buried in a pit which they dug there. And that work over they proceeded to cut up the fish into pieces; and when they had examined its fat and suet, they expressed its oil by clarifying it with heat, which was eaten by the tribe; and so they devoured and consumed in their own stomachs their implacable foe. This done, they all returned to Rotorua and dwelt there.

## 2. The Killing of Pekehaua.

After the destruction of the monster Hotupuku, the fame of that exploit was heard by all the many tribes of the district of Rotorua. Then a messenger was sent to those heroes by Hororita, or by some other chief, to inform them that another man-eating monster dwelt at a place called Te Awahou, and that the existence of this monster was known, just as in the former case of the one that dwelt in the plain at Kaingaroa. The travelling companies of the districts of Waikato and of Patetere were never heard of; and so the travelling companies of the Rotorua district, which left for Waikato, were also somehow lost, being never again heard of. When the people of Rotorua heard this news, those same 170 heroes arose, from out of many warriors, and set forth for Te Awahou. Arriving there, they sought for information, and gained all they could. Then they asked, "Where does this monster dwell?" The people of the place replied, "It

dwells in the water, or it dwells on the dry land, who should certainly know; according to our supposition, no doubt it is much like that one which was killed."

Hearing this, they went to the woods, and brought thence a large quantity of supplejacks (*Rhipogonum scandens*), with which to make watertraps of basket-work. Those they interlaced, and bound firmly together with a strong trailing plant (*Muhlenbeckia complexa*), so that when they were finished the traps consisted of two or even three layers of canes or supple-jacks. Then they twisted ropes wherewith to set and fix the water-traps, in order to snare the monster, and these were all done. Then they made similar plans and arrangements for themselves, as on the former occasion when the first one was killed. All being ready, the band of heroes set out, reciting their forms of spell, or charms, as they went along; those were of various kinds and potencies, but all having one tendency, to enable them to overcome the monster. Onwards they went, and after travelling some distance, they neared the place, or water-hole, where it was said the monster lived; the name of that deep pool is Te Warouri (*i.e.*, the Black Chasm). They travelled on until they gained the high edge of the river's side, where they again recited their charms and spells, which done, the 170 proceeded to encamp on that very spot. [93]

Then they diligently sought out among themselves a fearless and courageous man, when a chief named Pitaka presented himself and was selected. He seized the water-trap, which was decorated on the top and sides and below with bunches of pigeons' feathers; the ropes, also, were all fastened around the trap, to which stones were also made fast all round it, to make it heavy and to act as an anchor and to keep it steady; and, having seized it, he plunged into the water with his companions, when they boldly dived down into the spring which gushed up with a roaring noise from beneath the earth. While these were diving below the others above were diligently employed in performing their several works, viz., of reciting powerful charms and spells,<sup>324</sup> of which they uttered all they knew of various kinds and powers, for the purpose of overcoming the monster.

Now it came to pass that, when the spines and spear-like crest of the monster had become soft and flaccid, through the power of those spells and charms, for they had been all erect and alive in full expectation of a rare cannibal feast, Pitaka and his chosen companions descended to the very bottom of the chasm; there they found the monster dwelling in its own nice home; then the brave Pitaka went forwards, quite up to it, coaxing and enticing, and bound the rope firmly around the monster; which having done, lo! in a twinkling, he (Pitaka) had clean escaped behind it! Then his companions pulled the rope, and those at the top knew the

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324 WC: Upwards of ten kinds of spells are here, and in other parts of these stories, particularly mentioned by name; but as we have nothing synonymous in English, their names cannot be well translated, and it would take as many pages of MS. to explain them. Among them were spells causing weariness to the foe, spells for the spearing of taniwhas (monsters), spells for the warding off attack, and for the protection of the men from the enemy; spells for causing bravery, for returning like-for-like in attack, for uplifting feet from ground, for making powerless, etc., etc., all more or less curious, but mostly very simple in terms. Of spells and charms, exorcisms and incantations—for good or for ill-luck, for blessing and cursing—the ancient New Zealander possessed hundreds, ingeniously contrived for almost every purpose; few, however, if any, of them could be termed prayers. Such form a bulky history of themselves.

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323 WC: Uri-o-Tiki: literally, descendants of Tiki; Tiki being, in their mythology, the creator or progenitor of man.

sign, and hauled away, and drew up to the top their companions, together with the monster, so that they all came up at one time. Nevertheless, those above had also recited all manner of charms for the purposes of raising, lifting, and upbearing of heavy weights, otherwise they could not have hauled them all up, owing to their very great weight.

For a while, however, they were all below; then they came upwards by degrees, and at last they floated all together on the surface. Ere long they had dragged the monster on shore on to the dry land, where it lay extended; then they hastened to hit and beat with their clubs the jaws of this immense fish. Now this monster had the nearer resemblance to a fish, because it had its habitation in the water. [94]

So then went forth the loud pealing call to all the towns and villages of the Rotorua district. And the tribes assembled on the spot to look at and examine their implacable foe. There it lay dragged on to the dry land on the river's side, in appearance very much like a big, common whale. Yet it was not exactly like a full-grown old whale; it was more, in bulk, as the calf of a big whale as it there lay.

They then commenced cutting-up that fish as food for themselves; on laying its huge belly wide open there, everything was seen at one glance, all in confusion, as if it were the centre of a dense forest.<sup>325</sup> For, going downwards into its vast stomach, there lay the dead, just as if it were an old bone-cave with piles of skeletons and bones—bones of those it had swallowed in former days. Yes, swallowed down with all their garments about them, women and children and men! There was to be seen the enormous heap of clothing of all kinds; chiefs' mats of dogs' tails and of dogs' skins—white, black, and chequered—with the beautiful woven flax-mats adorned with ornamental borders, and garments of all kinds. There were also arms and implements of all kinds<sup>326</sup> clubs, spears, staves, thin hardwood chopping knives, white whalebone clubs, carved staffs of rank, and many others, including even darts and barbed spears, which the monster had carried off with its food. There these arms and implements all were, as if the place were a store-house of weapons or an armoury!

Then they proceeded to roast and to broil, and to set aside of its flesh and fat in large preserving calabashes, for food and for oil; and so they devoured their deadly enemy all within their own stomachs; but all the dead they buried in a pit.

Then every one of those valiant warriors returned to their own homes. The name of that village, where they were for a while encamped, was Mangungu (*i.e.*, broken bones).

So much for thy victorious work! O thou all-devouring throat of man, that thou shouldest even seek to eat and to hunt after the flesh of monsters as food for thee!

### 3. The Killing of Kataore.

When the fame of those victors who had killed the monster Pekehaua reached the various towns and villages of Tarawera, of Rotokakahi, and of Okataina, the people there were filled with wonder at the bravery of those men who

had essayed to destroy that terrible and malicious man-devourer.

Then they began to think, very likely there is also a monster in the road to Tikitapu, because the travelling companies going by that place to Rotorua [95] are never once heard of; their relations are continually enquiring, "Have they arrived at the place to which they went?" but there is no response; therefore they are dead. Hence it follows that the sad thought arises within, were they killed by some monster? or, by some travelling man like themselves? or, by some armed marauding party of the enemy?

But the chief of Tikitapu and of Okareka, whose name was Tangaroamihi, knew very well all along that there was a monstrous beast at Tikitapu, although he did not know that the beast there residing ate up men; the chief always believed that it dwelt quietly, for it assumed the very air of peace and quietness whenever the chief and his men went to the spot where it dwelt to give it food; and that beast also knew very well all its feeders, and all those who used it tenderly and kindly. Nevertheless, when they had returned from feeding it to their village, and any other persons appeared there going by that way, then that monster came down and pursued those persons and devoured them as food.

Now the manner of acting of this ugly beast was very much like that of a (bad) dog which has to be tied to a stick (or clog). For its knowledge of its own masters was great; whenever its master, Tangaroamihi, went there to see it, its demeanour was wholly quiet and tractable, but when people belonging to another and strange tribe went along by that road, then it arose to bark and growl at them; so that, what with the loud and fearful noise of its mouth, and the sharp rattlings of its rings and leg-circlets, great fear came upon them, and then he fell on them and ate them up.

Now when the multitude everywhere heard of the great valour of those men, the tribes all greatly extolled them, and wondered exceedingly at the prodigious powers of those four chiefs.

Then it was that the chiefs of Rotokakahi, of Tarawera, of Okataina, and of Rotorua began to understand the matter, and to say, "Oh! there is perhaps a monster also dwelling in the road to Tikitapu, because the travelling parties going from those parts to Rotorua, as well as those coming from Rotorua to these five lakes, are never heard of." For when the travellers went to Rotorua by the road of Okareka they safely arrived thither; and so when they returned by that same way of Okareka they reached their homes in safety;—but if the travellers went from Tarawera to Rotorua by the road of Tikitapu, they never reached Rotorua at all; somehow they always got lost by that road.

And so again it was with the people from Rotokakahi, travelling thence to Rotorua; if they went by the road leading by Pareuru, they safely arrived at Rotorua, and also in returning from Rotorua; if they came back by that same road, they reached their villages at Rotokakahi in safety; somehow, there was something or other in that road by Tikitapu [96] which caused men's hearts to dislike greatly that way, because those who travelled by it were lost and never heard of.

Therefore, the hearts of those who remained alive began to stir within them, so that some even went as far as to say—"Perhaps that chief Tangaroamihi has killed and destroyed both the travelling parties and the armed parties who travelled by the way of Tikitapu." But that chief

325 WC: The words are: "Koteriu o Tane-Mahuta," lit., the hollow stomach, or centre of Tane-Mahuta—*i.e.*, the god of forests; Tane-Mahuta being the god of forests.

326 WC: Ten kinds are here enumerated, all of hardwood and hard white whale's-bone.

Tangaroamihi had shown his hospitality and expressed his kindly feeling to the enquirers who went to his town to seek after those who were missing.

Now, however, when the suffering people heard of the exceeding great valour of those four chiefs in their slaying of monsters, then they considered how best to fetch them to come and to have a look at Tikitapu.

So their messenger was sent to those brave heroes, and when they heard from him the message, they all bestirred themselves, that same 170, for they were greatly delighted to hear of more work for them in the line of slaying monsters. So they immediately commenced preparations for their journey to Tikitapu, some in pounding fernroot, some in digging-up convolvulus roots, some in taking whitebait (*Galaxias attenuatus*), and some in dredging freshwater mussels, all to be used as food on their journey to Taiapu, to the mount at Moerangi, for Moerangi was the place where that noxious beast called Kataore dwelt.

In the morning, at break of day, they arose and started, taking their first meal far away on the great plain, at a nice kind of stopping-place. When they had scarcely finished their meal they commenced conversation with the usual talk of warriors on an expedition; for at this time they did not exactly know whether it was really by a monster, or by the people who dwelt thereabouts, that all those who had travelled by that road, whether armed parties or whether singly, had been destroyed.

When this armed party took their journey, they also brought away with them the necessary ropes and such things, which had been previously made and got ready. They knew that such (as they had heard) was the evil state of all the roads and ways of that place, therefore they sat awhile and considered, knowing very well the work they had in hand.

However, when the eating and talking were ended, they again arose and recommenced their march. They entered the forest and traversed it, quitting it on the other side. Then the priests went before the party to scatter abroad their spells and charms, that is to say, their Maori recitations. But they acted just the same on this as on former occasions already related.

They recited all the charms and spells they had used against both Hotopuku<sup>327</sup> and Pekehaua, going on and reciting as they went; at last [97] they made up their minds to halt, so they sat down. Then it was that the people in the villages, under the chief Tangaroamihi, gazed watchfully upon that armed party there encamped, thinking it was a party of their enemies coming to fight and to kill; but in this they were deceived, it being altogether a different party.

A long time the party remained there, watching and waiting, but nothing came. At last one of the chiefs got up and said—"Whereabouts does this noxious beast that destroys men dwell?" Then another of those chiefs replied—"Who knows where, in the water, or in the stony cliff that overhangs yonder?" On this they set to work, and closely examined that lake; but alas! the monster was not to be found there; nevertheless, the appearance of that water was of a forbidding fearful character, that is to say, the fear was caused by the peculiar glitter of the water, as if strangely and darkly shaded, having the appearance of the water whence the greenstone is obtained. But notwithstanding all

that, they could not detect any kind of chasm or deep dark hole in all that lake, like the hole in which Pekehaua was found.

Then certain of the chiefs said to the priests, "Begin, go to work; select some of your potent charms and spells." So those were chosen and used; the priests recited their charms, causing stinging like nettles, and their charms of stitching together, so that the bubbles might speedily arise to the surface of the lake, if so be that the monster they sought was there in the water. At this time one of the priests arose, upon the word spoken forth by one of the chiefs of the party, and said, "It is all to no purpose; not a single burst, or rising, or bubble has arisen in the water of Tikitapu."

Then they turned their attention upwards to the stony cliff which stood before them; when, before they had quite finished their spell, causing nettlestinging, and were reciting their lifting and raising charms, a voice was heard roaring downwards from the overhanging precipice at Moerangi, as if it were the creaking of trees in the forest when violently agitated by the gale; then they knew and said, "Alas! the monster's home is in the cave in the stony cliff."

Upon this the whole body of 170 arose and stood ready for action; for glad they also were that they had found food for their inner man. In their uprising, however, they were not forgetful, for they immediately commenced reciting their powerful charms and spells; all were used, of each and every kind—none were left unsaid; the several priests made use of all,<sup>328</sup> that being their peculiar work.

They now set to work, and soon they got near to the entrance of the [98] cave in the rock where this noxious cannibal beast dwelt. At last they got up to the cave, where the whole band quietly arranged themselves, and took a long time to consider how to act. At length the valiant, fearless men arose—men who had already bound monsters fast—and, seizing the ropes, went forward into the cave. There they saw that noxious beast sitting, and staring full at them; but, oh! such fearful eyes! Who can describe them? In appearance like the full moon rising up over the distant dark mountain range; and when gazed at by the band, those hideous eyes glared forth upon them like strong daylight suddenly flashing into the dark recesses of the forest. And, anon, lo! they were in colour as if clear shining greenstone were gleaming and scintillating in the midst of the black eye-balls! But that was really all that gave rise to the appearance of fear, because the creature's spines and crest of living spears had become quite flaccid and powerless, through the potent operations of the many weakening spells which had been used by those numerous warriors, that is to say, priests.

Then they managed to put forth their hands stealthily over its huge head, gently stroking it at the same time. At length the rope was got round the monster's neck and made secure; another rope was also slid further on below its fore-legs, and that was firmly fixed; twice did those brave men carry ropes into the cave. Having done all this they came out to their friends, those of the 170 warriors who had been anxiously waiting their return, and who, when they saw them emerge, enquired, "Are your ropes made fast?" They replied, "Yes; the ropes are fastened to the monster; one round the neck and one round the middle." Then the enquiry arose, "How shall the dragging of it forth from its cave, and

327 WC: Though not once mentioned or alluded to in that story.

328 WC: Seven or eight kinds of charms and spells are here also particularized, and then the remainder given in a lump.

its destruction, be accomplished?" When some of the chiefs replied, "Let us carry the ropes outside of the trees which grow around, so that, when the monster begins to lash and bound about, we shall be the better able to make them fast to their trunks." Then others said, "All that is very good, but how shall we manage to kill it?" Some replied, "Why should we trouble ourselves about killing it? Is it not so fastened with ropes that it cannot get away? Just leave it to itself; its own great strength will cause it to jump violently about, and jerk, and knock, and beat itself; after that, we having made the ropes fast to the trees, the destroyers can easily run in on it and kill it; or, if not, let us just leave it alone to strangle itself in the ropes." So all this was carried out by those 170 brave warriors.

Then the several men having been all properly placed, so as to hold and handle and drag the ropes effectually; the word of command was given, "Haul away!" and then they all hauled with a will! But, wonderful to behold, entirely owing to the cave being in the face of the perpendicular [99] cliff, almost simultaneously with the first pull, lo! the monster was already outside of the entrance to the cave. But then, in so saying, the potent work of the priests in reciting their raising and uplifting charms must be also included in the cause of the easy accomplishment. The moment that the monster's great tail was outside clear of the cave, then its head began to rear and toss and plunge, frightful to behold! On seeing this, they loosened a little the rope that held it by its middle; when, lo! its head was close to the trees, against which it began to lean, while it knocked about its tail prodigiously. The men, however, were on the watch, and soon the two ropes were hauled tightly up around the trees, notwithstanding the jerkings and writhings of its huge tail. There, at last, it was, lashed fast close to the trees, so that it could only wriggle a little that is to say its tail.

Then the armed men came on; they banged and beat and clubbed away at the monster, which now lay like a rat caught in the snare of a trap; and it was not long before it was quite dead, partly through the blows and bruises, and partly through the ropes; and so it came to pass that it was killed.

The fame of this great exploit was soon carried to all those tribes who had fetched and sent Purahokura on his errand to Tikitapu. Then they assembled at the place, and saw with astonishment their deadly foe lying on the ground, just like a stranded whale on the sea-shore, even so this noxious monster now lay extended before them. Then arose the mighty shout of derision from all both great and small, the noise was truly deafening, loud sounding, like that arising from the meeting together of the strong currents of many waters!

Early the next morning the people arose to their work to cut up their fish; then was to be seen with admiration the dexterous use of the various sharp-cutting instruments—of the saw made of sharks' teeth, of the sea mussel-shells, of the sharp pitch-stone knives, of the freshwater mussel-shells, and of the flints. Truly wonderful it was to behold, such loads of fat! such thick collops! This was owing to the cannibal monster continually devouring men for its common food at all times and seasons; it never knew a time of want or a season of scarcity; it never had any winter, it was always a jolly harvest time with it! How, indeed, should it have been otherwise? when the companies of travellers from this place and from that place were continually passing and repassing to and fro; therefore it came to pass that its huge maw was satiated with food—not including the food

given to it by its master Tangaroamihi—and therefore it came to be so very fat.

So the big fish was cut up. As they went on with their work, and got [100] at length into its stomach, there the cannibal food which it had devoured was seen! there it lay—women, children, men—with their garments and their weapons. Some were found chopped in two, both men and weapons; no doubt through the action of its terrible lips in seizing them! others were swallowed whole, very likely through its capacious mouth being kept open, when the strong internal blasts from its great gullet drew down the men into its stomach! For you must also know, that this cave is situated near to the water, so that whenever a party came by water paddling in their canoe to Tikitapu, and the canoe came on to the landing place, this monster, Kataore, seeing this, came out of its cave, and, jumping into the water, took the canoe with the men in it into its stomach, so that both men and canoe were devoured instantaneously!

The victors worked away until they had taken everything out of its big maw, both the goods (of clothing and instruments as before) and the dead; the dead they buried in a pit. Then they finished cutting up that big fish; some of it they roasted and broiled; and some they rendered down in its own fat, and preserved in calabashes; and so it came to pass that it was all eaten up, as good food for the stomach of man.

But when the news of this killing was carried to the chief Tangaroamihi, to whom this pet Saurian belonged, and he heard it said to him,—“What is this they have done; thy pet has been killed?” The chief enquired, “By whom?” and they answered, “By the tribe of Tama” (Ngatitama). On hearing this the heart of Tangaroamihi became overcast with gloom, on account of his dear pet which had been killed; and this deed of theirs was a cause of enmity and war between Tangaroamihi and those who had destroyed his pet; and it remained and grew to be a root of evil for all the tribes. Thus the story ends.

It should be briefly noticed, in conclusion, that the name of this chief (Tangaroamihi), is one highly suited to the *event*; or it may have been given to him at an earlier date, through his having a pet reptile. *Tangaroa* is the name of the god, or creator or father and ruler, of all fishes and reptiles; (though Punga is sometimes spoken of as a god possessing similar powers, but perhaps over only a certain natural section of those animals,<sup>329</sup> and *mihi* means, to show affection for, or to lament and sigh over, any one,—present or absent, living or dead;—so that Tangaroamihi might mean, (1) that this chief lamented over the death of one of Tangaroa's family, or tribe; or (2) that he ever liked and showed great affection towards one of them. [101]

### § 3.—Fables.

#### 1.—*The Fable of the Shark and the Large Lizard—(Guana).*

In days of yore the large lizard and the shark lived together in the sea, for they were brothers, both being of the children

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<sup>329</sup> WC: Vide the beginning of the following fable,—“The Shark and the large Lizard,” and the note there.

of Punga.<sup>330</sup> The lizard was the elder and the shark the younger. After some time they fell out, and as the quarrel was great and protracted, the lizard, vexed at the conduct of his younger brother, determined to leave off dwelling in the sea, and to reside on the dry land, so he left the water.<sup>331</sup> But just as he had got on the shore, his brother the shark swam up to where he was on a rock, and wished him to return, saying—"Let you and I go out to sea, to the deep water." The lizard replied, with a bitter curse, saying—"Go thou to the sea, that thou mayst become a relish of fish for the basket of cooked roots."<sup>332</sup> On this, the shark retorted with another curse, saying—"Go thou on shore that thou mayst be smothered with the smoke of the fire of green fern."<sup>333</sup> Then the lizard replied, with a laugh, "Indeed, I will go on shore, away up to the dry land, where I shall be looked upon as the personification of the demon-god Tu,<sup>334</sup> with my spines and ridgy crest causing fear and affright, so that all will gladly get out of my way, hurrah!"

## 2. The Battle of the Birds.—(A Fable of the Olden Time.)

In ancient days, two shags met on the seaside. One was a salt-water bird and the other was a fresh-water bird; nevertheless, they were both shags, living alike on fish which they caught in the water, although they differed a little in the colour of their feathers. The river-bird, seeing the sea-bird go into the sea for the purpose of fishing food for itself, did the [102] same. They both dived repeatedly, seeking food for themselves, for they were hungry; indeed, the river-bird dived ten times, and caught nothing. Then the river-bird said to his companion, "If it were but my own home, I should just pop under water and find food directly; there never could be a single diving there without finding food." To which remark his companion simply said, "Just so." Then the river-bird said to the other, "Yes, thy home here in the sea is one without any food." To this insulting observation the sea-bird made no reply. Then the river-bird said to the other, "Come along with me to my home; you and I fly together." On this both birds flew off, and kept flying till they got to a river, where they dropped. Both dived, and both rose, having each a fish in its bill; then they dived together ten times, and every time they rose together with a fish in their bills. This done the sea-bird flew away

330 WC: According to the Maori mythology (in which each portion, or kingdom, of Nature had a different origin or progenitor), Punga was the father, or former, of fishes and reptiles.

331 WC: Darwin, in his "Naturalist's Voyage" (ch xvii.), writing of the large aquatic lizard (*Amblyrhynchus cristatus*), has some curious remarks very applicable here.

332 WC: "Roots" is not in the original, which has merely "kete maoa"—basket of cooked (food, understood); but the meaning is fernroot, or sweet potatoes. Our common potatoes were not then known to the New Zealander, otherwise I should have preferred that word. "Sweet potatoes" (or kumara) would not answer well, as this food was not in use all the year round; and "vegetables" would mislead, as such were never alone cooked save in times of great scarcity. The allusion is as to the Maori manner of serving up and setting food before men, each basket having a bit of fish or flesh, as a savour, placed on the top.

333 WC: I had often heard of the old mode of capturing this (the edible) lizard, which lived in holes (burrows) at the foot of trees, and was made to appear by smoking them out; forty years ago this animal was still being eaten by an inland tribe named Rangitane. (Vide ante, extract from Cook, p. 83, and from Nicholas, p. 84.)

334 WC: Tu was the name of the New Zealand god of war.

back to its own home. Arriving there it immediately sent heralds in all directions to all the birds of the ocean, to lose no time but to assemble and kill all the fresh-water birds, and all the birds of the dry land and the forests. The sea-birds hearing this assented, and were soon gathered together for the fray. In the meanwhile, the river-birds and the land and forest birds were not idle; they also assembled from all quarters, and were preparing to repel their foes.

Ere long the immense army of the sea-birds appeared, sweeping along grandly from one side of the heavens to the other, making such a terrible noise with their wings and cries. On their first appearing, the long-tail fly-catcher (*Rhipidura flabellifera*) got into a towering passion, being desirous of spearing the foe, and danced about presenting his spear on all sides, crying "*Ti! ti?*"<sup>335</sup> Then the furious charge was made by the sea-birds. In the first rank came, swooping down with their mighty wings, the albatross, the gannet, and the big brown gull (*ngoiro*), with many others closely following; indeed, all the birds of the sea. Then they charged at close quarters, and fought bird with bird. How the blood flowed and the feathers flew! The river-birds came on in close phalanx, and dashed bravely right into their foes. They all stood to it for a long time, fighting desperately. Such a sight! At last the sea-birds gave way, and fled in confusion. Then it was that the hawk soared down upon them, pursuing and killing; and the fleet sparrow-hawk darted in and out among the fugitives, tearing and ripping; while the owl, who could not fly by day, encouraged, by hooting derisively, "Thou art brave! thou art victor!"<sup>336</sup> and the big parrot screamed, "Remember! remember! Be you ever remembering your thrashing!"<sup>337</sup> [103]

In that great battle, those two birds, the *titi* (*Haladroma urinatrix* = petrel), and the *taiko*,<sup>338</sup> were made prisoners by the river-birds; and hence it is that these two birds always lay their eggs and rear their young in the woods among the

335 WC: Its faint little note, uttered as it hops, and twirls, and opens its tail.

336 WC: "Toä koë! toä koë!" was the owl's cry, which the words a little resemble.

337 WC: "Kia iro! kia iro koe!" was the cry of the parrot.

338 WC: Of this bird, the Taiko, I have formerly often heard, particularly at the northern parts of the North Island, but have never seen one. It is scarcely known here in Hawke Bay, save by name to a few of the oldest natives. An old chief at Te Wairoa told me that he had known of two which were seen together on the shore of Portland Island (Hawke Bay), many years ago, one of which was snared and eaten. From another very old chief I had heard of two having been once cooked in a Maori earth-oven as a savoury mess for a travelling party of rank; and from his story it would appear as if the bird could have been easily taken in its habitat, at the will of the lord of the manor; for, on that travelling party arriving at the pa, one of the chiefs' wives remarked, "Alas! whatever shall I do for a tit-bit to set before our guests?" The chief said, "I'll get you some." He then went out and soon returned with two Taikos, which were cooked and greatly relished. This bird is said to have been large, plump, and fat, and highly prized for food, and only to be obtained on exposed oceanic headlands and islets. (There are small rocky islets called by its name, Motutaiko.) Possibly it may be a large species of petrel or puffin; although, if the imperfect Maori relation is to be depended on, its beak was more that of an albatross. [*The Chatham Island Taiko (Magenta Petrel) is one of the world's most endangered seabirds. It breeds only on the Chatham Islands 800 kilometres east of New Zealand. Current population estimates range between 120 to 140 individuals with only 14 known breeding pairs.*]

land-birds. The *tītī* (petrel) goes to sea, and stays away there for a whole moon (lunar month), and when she is full of oil, for her young in the forests, she returns to feed them, which is once every moon. From this circumstance arose with our ancestors the old adage, which has come down to us, “*He tītī whangainga tahi;*” literally, *A tītī of one feeding;* meaning, Even as a *tītī* bird gets fat though only fed well *once now and then.*<sup>339</sup>

#### APPENDIX.—Note to p. 82.

This is an astonishing fact, but it is strictly true, though, I believe, scarcely known. I, therefore, with great pleasure, give in a note an extract or two from an interesting letter “*On the Native Songs of New Zealand,*” written nearly twenty-five years ago, by a talented musician and author of several works on music (Mr. J.H. Davies, of Trinity College, Cambridge), which letter was printed as an appendix to one of Sir G. Grey’s works on New Zealand; and though highly worthy of being read and of being deeply studied—especially by a trained musician—it is, I fear, but very little known among us. [104]

First, Mr. Davies writes of “the enharmonic scale of the ancient Greeks” (which has long been lost, and which, indeed, has been disputed), that “it consisted of a quarter-tone, a quarter-tone and an interval of two tones, an interval somewhat greater than our third major;” and that this long-lost ancient scale has been found to exist among the Arabians, the Chinese, and the *New Zealanders.*

“As the highest art is to conceal the art and to imitate nature, that mighty nation the Greeks, with an art almost peculiarly their own, having observed these expressions of natural sentiment,” stated fully in the preceding paragraph, “thence deduced certain laws of interval, by which, while they kept within the limits of art, they took care not to transgress those of nature, but judiciously to adopt, and as nearly as possible to define, with mathematical exactness, those intervals which the uncultured only approach by the irregular modulation of natural impulses. ... Hence, I conceive the reason of the remnant of that scale being found among most of those nations who have been left to the impulses of a ‘naturetaught’ song rather than been cramped by the trammels of a conventional system—the result of education and of civilization.”

“*Plutarch* remarks, that the most beautiful of the musical genera is the enharmonic, on account of its grave and solemn character, and that it was formerly most in esteem. *Aristides Quintilian* tells us it was the most difficult of all, and required a most excellent ear. *Aristoxenus* observes that it was so difficult that no one could sing more than two dieses consecutively, and yet the perceptions of a Greek audience were fully awake to, and their judgment could appreciate, a want of exactness in execution.”

339 WC: This proverb would be used by the *New Zealanders* on various occasions; such as (1) When chiefs of lower rank would bring a present (annual, perhaps, as of sweet potatoes [*kumara*] at harvest-time), to their superior chief: (2) When a travelling party arrives at a village, and something particularly good, or extra, which perhaps had been stored up or set by, or just obtained with difficulty or labour, should be given to the party; on such occasions the proverb might be used. Much like (here) our sayings of, “We don’t kill a pig every day!” “In luck to-day!” “Just in time” &c.

“Mr. Lay Tradescant, speaking of the Chinese intervals, says that ‘it is impossible to obtain the intervals of their scale on our keyed instruments, but they may be perfectly effected on the violin;’ ... and our own ears attest that, universally, in the modulations of the voice of the so-called savage tribes, and in the refined and anomalously studied Chinese, there are intervals which do not correspond to any notes on our keyed instruments, and which to an untrained ear appear almost monotonous.”

“Suffice it to say that many Chinese airs, of which I have two, show the diesic modulation and the saltus combined; but the majority of the *New Zealand* airs which I have heard are softer and more ‘ligate,’ and have a great predominance of the diesic element.”

“One thing, however, is certain, that, as Aristoxenus tells us, no perfect ear could modulate more than *two* dieses at a time, and then there was a ‘saltus’ or interval of two tones, and as the *New Zealand* songs frequently exhibit more than *two* close intervals together, it is more than probable that many of these songs are achromatic.” [105]

“In proof that a system of modulation like the above still survives, I shall produce as nearly as my ear could discern, the modulation of some of the *New Zealand* melodies. ...

“I here beg to state, that though with great care and the assistance of a graduated monochord, and an instrument divided like the intervals of the Chinese *kin*, I have endeavoured to give an idea of those airs of *New Zealand* which I heard, yet so difficult is it to discover the exact interval, that I will not vouch for the mathematical exactness. ... I must also, in justice to myself, add, that the singer did not always repeat the musical phrase with precisely the *same* modulation, though without a very severe test this would not have been discernible, nor then to many ears, the general effect being to an European ear very monotonous. But I may say that, when I sang them from my notation, they were recognised and approved of by competent judges, and that the *New Zealander* himself said, ‘he should soon make a singer of me.’”<sup>340</sup>

Mr. Davies has also, in his letter, given some of our *Maori* *New Zealand* songs, set by him to music, as examples.

I may here also mention, that one of the earliest scientific visitors to *New Zealand*, Dr. Forster, who accompanied Captain Cook on his second voyage, has left a statement on record of a similar kind. Here is a short quotation from it, given, partly on account of the learned German’s feeling and truthful deduction therefrom, and partly because his valuable work is scarcely known in the Colony. (And, to the everlasting honour of the good Doctor, it is to be further noted, that he does this immediately after relating several acts of killing and cannibalism perpetrated by the *New Zealanders* on Europeans, among which was the very recent one, in which ten seamen belonging to Captain Cook’s expedition were killed, etc., so that Dr. Forster did not allow his reason to be carried away by his feelings.) He says,— “The music of the *New Zealanders* is far superior in variety to that of the Society and Friendly Islands. ... The same intelligent friend who favoured me with a specimen of the songs at Tongatapu, has likewise given me another of the

340 [Note—See “*Polynesian Mythology and Ancient Traditional History of the New Zealand Race*, as furnished by their Priests and Chiefs.” Appendix, p. 313. By Sir George Grey; Murray: London, 1855.—ED.]

New Zealand music; and has also assured me that there appeared to be some display of genius in the New Zealand tunes, which soared very far above the wretched humming of the Tahitian, or even the four notes of the people at the Friendly Islands." (Two specimens of their tunes set to musical notes are then given.) "The same gentleman likewise took notice of a kind of dirge-like melancholy song, relating to the death of Tupaea." (The musical notes of this, with the words, are also given.) [106]

"They descend at the close from *c* to the octave below in a fall, resembling the sliding of a finger along the finger-board of a violin. I shall now dismiss this subject with the following observation,—that the taste for music of the New Zealanders, and their superiority in this respect to other nations in the South Seas, are to me stronger proofs in favour of their heart, than all the idle eloquence of philosophers in their cabinets can invalidate."—*Forster's Voyage*, vol. II., pp. 476–478.

### 1878 On the ignorance of the ancient New Zealanders of the use of projectile weapons.

*Transactions of the New Zealand Institute* 11: 106-118.  
[Read before the Hawke Bay Philosophical Institute, 9th September, 1878.]

I HAVE read Mr. G. Phillips' paper "On a peculiar Method of Arrow Propulsion amongst the Maoris,"<sup>341</sup> and as Mr. Phillips has referred to a very brief remark made by me in my essay "On the Maori Races,"<sup>342</sup> and is evidently unacquainted with the old state of things which obtained in this country with regard to *missiles*, I have thought it right to say a few words on this subject in this paper.

First, however, I would briefly remark, that in my writing that essay I appended thereto a quantity of "Notes," all elucidatory of many of the statements I had made therein. Somehow those "Notes" were not printed with the essay—a matter I have greatly deplored, for it was wholly incomplete without them. Had they been printed with it, then Mr. Phillips would have found related the circumstance which gave rise to my remark quoted by him, of the New Zealanders "throwing fiery-headed darts at a *pa* (or fort) when attacking it." That note I shall give in this paper further on.

It should be perfectly well known to us all that the first European visitors to New Zealand found the people utterly without the bow and arrow, and the sling, and, indeed, the common frequent use of the small dart or javelin, as an offensive projectile weapon. And all of those early visitors had ample opportunities of knowing this, for they were often attacked themselves by the New Zealanders, both on land and on water, when such missile weapons were never once used.

At the same time it should be observed, that whenever a canoe, or a body of natives, came up with Cook, whether at

sea or on land, and were for fighting, a single spear was invariably thrown; this, however, was by way of challenge (*taki*), and was in accordance with their national custom; just equal to the old European one of throwing down the gage.

This non-use of prepared missiles appeared the more strange to the Europeans, from the fact of such weapons (slings and darts) being commonly [107] used as weapons of attack in the South Sea Islands, which Cook and his companions had but lately left. While the use of the bow and arrow, for sport, was also known to some of those islanders.

Captain Wallis, who discovered Tahiti in 1767 (two years before Cook first visited it and New Zealand), was fiercely attacked by the Tahitians, who surrounded his ship with "a fleet of more than 300 canoes, carrying 2,000 men." On that occasion (when Wallis was in danger, and only saved by his big guns), the islanders commonly used powerful slings, with which they did some execution even in a ship of war. Captain Wallis says:—"The canoes pulled towards the ship's stern, and began again to throw stones with great force and dexterity, by the help of slings, from a considerable distance; each of these stones weighed about 2lbs., and many of them wounded the people on board, who would have suffered much more if an awning had not been spread over the whole deck to keep out the sun, and the hammocks placed in the nettings." Their bows and arrows, however, they did not use on that occasion during the fight. Further on Captain Wallis adds:—"Their principal weapons are stones, thrown either with the hand or sling, and bludgeons; for though they have bows and arrows, the arrows are only fit to knock down a bird, none of them being pointed, but headed only with a round stone."<sup>343</sup>

Sydney Parkinson, who was with Cook on his first voyage, gives a drawing of the Tahitian sling (Pl. 13, fig. 1), and a description of it. He says:—"Their sling is about four feet long, made of plaited twine, formed from the fibres of the bark of a tree; the part which holds the stone is woven very close, and looks like cloth, from which the string gradually tapers to a point."<sup>344</sup>

Captain Cook, in 1769, thus speaks of the use of the bow and arrow by those Tahitians:—"Their bows and arrows have not been mentioned before, nor were they often brought down to the fort. This day, however, Tupurahi Tamaiti brought down his, in consequence of a challenge he had received from Mr. Gore. The chief supposed it was to try who could send the arrow farthest; Mr. Gore, who best could hit a mark, and as Mr. Gore did not value himself upon shooting to a great distance, nor the chief upon hitting a mark, there was no trial of skill between them. Tupurahi, however, to show us what he could do, drew his bow and sent an arrow, none of which are feathered, 274 yards, which is something more than a seventh and something less than a sixth part of a mile. Their manner of shooting is somewhat singular; they kneel down, and the moment the arrow is discharged drop the bow."<sup>345</sup> [108]

And this is what he says respecting the New Zealanders, after having been some time among them:—"The perpetual hostility in which these poor savages live has necessarily

341 WC: Trans. N.Z. Inst., Vol. X. 97.

342 WC: Trans. N.Z. Inst., Vol. I., p. 15 of the essay; 2nd ed., p. 352.

343 WC: Wallis's Voyage; Cook's Voyages, Vol. I., pp. 444–448.

344 WC: Journal, p. 75.

345 WC: Cook's Voyages, Vol. II., p. 147.

caused them to make every village a fort. ... These people have neither sling nor bow. They throw the dart by hand, and so they do stones; but darts and stones are seldom used except in defending their forts. ... But it is very strange that the same invention and diligence which have been used in the construction of places so admirably adapted to defence, almost without tools, should not, when urged by the same necessity, have furnished them with a single missile weapon, except the lance, which is thrown by hand; they have no contrivance like a bow to discharge a dart, nor anything like a sling to assist them in throwing a stone, which is the more surprising, as the invention of slings, and bows and arrows, is much more obvious than of the works which these people construct, and both these weapons are found among much ruder nations, and in almost every other part of the world. The points of their *long* lances are barbed, and they handle them with such strength and agility that we can match them with no weapon but a loaded musquet.”<sup>346</sup>

Sydney Parkinson has an excellent remark on this subject (excellent in more ways than one), which I also quote, in the hope that future writers on “the whence of the Maori,” will take a note of it. He says—“Something has already been mentioned respecting the language of the New Zealanders, and of its affinity with that of the people of Tahiti, which is a very extraordinary circumstance, and leads us to conclude that one place was originally peopled from the other, though they are at near 2000 miles distance. ... The migration was probably from New Zealand to Tahiti, as the inhabitants of New Zealand were totally unacquainted with the use of bows and arrows till we first taught them, whereas the people of Tahiti use them with great dexterity, having, doubtless, discovered the use of them by some accident after their separation; and it cannot be supposed that the New Zealanders would have lost so beneficial an acquisition if they had ever been acquainted with it.”<sup>347</sup>

It must not be overlooked that two Tahitians (Tupaea and his son Taiota) were with them on this occasion. Tupaea not only aided the English considerably as interpreter, but was often *facile princeps* during the whole of their long stay among the New Zealanders. So, again, on Cook’s second voyage from Tahiti to New Zealand, he had on board a native of Porapora (one of the Society Isles), named Mahine, who came on with him to New Zealand. [109]

Dr. Forster, who accompanied Cook on his second voyage round the world, has given us a full account of the weapons of the people of Tanna, an island they discovered and spent some time at on their third voyage from Tahiti to New Zealand. There, at Tanna, not only darts and slings were used in warfare, but also bows and arrows. And, again, subsequently, when at New Caledonia (which island Cook also discovered during that voyage), Dr. Forster gives another interesting account of the very peculiar manner in which those natives threw their darts, and, also, their prepared stones from slings.<sup>348</sup>

Mr. Nicholas, who was in New Zealand with Mr. Marsden in 1814, and who spent several months in the country travelling about, and seeing all that was to be seen, saw no projectile weapon used by the natives save their common

346 WC: Cook’s Voyages, Vol. II. p. 345; III. 466.

347 WC: Parkinson’s Journal, p. 75.

348 WC: See appendix A for these extracts which I make, as Forster’s Voyage is a scarce work; and, also, believing they may be of service hereafter.

hand spears. And Major Cruise, during his ten months’ residence, is also equally silent about any missiles used by them in their warfare, although as a military officer, in command of soldiers, anything of that kind would be sure to have attracted his notice.

We gather the same from Rutherford’s Journal. This witness had ample opportunities during his long sojourn of ten years among the New Zealanders, during which time he got fully tattooed and lived wholly *à-la-Maori*, in his frequent travellings with the Maoris from place to place in the interior, and from his having been a witness of several severe and bloody battles. Curiously enough, Rutherford was at the great battle fought at Kaipara between the Ngatiwhatau and the Ngapuhi tribes, in which the savage and murderous chief Hongi was present, commanding the Ngapuhi, and in which fierce battle Hongi’s son, Hare, was slain, and his head, with others, carried off in triumph by Rutherford’s Maori party from the East Coast; that battle was fought in the year 1825. Rutherford is in many respects a truthful witness, as I have good reasons for saying, having formerly traced out not a few of his statements. To the above I might add the uniform testimony of all the first missionaries, who saw quite enough of bloody work; and of Polack,<sup>349</sup> who resided a few years in New Zealand; [110] but I will here close with my own, and that for two reasons: 1. That I had early travelled more than any one in New Zealand (the North Island), leaving few spots unvisited, and had used my eyes and ears in so travelling; and that I had also witnessed their manner of fighting and of attack; 2. That it was our custom at an early date (1834–1840), seeing we were but few then in number in the land, and could not possibly go everywhere—to collect young Maoris from all parts, and to teach them at our principal mission stations in the Bay of Islands, and then, when taught, return them to their homes and tribes; and that many of our Maori servants and labourers, amounting to some scores, or hundreds, were from those who had been taken young in war (of whom a large number we got liberated and returned to their homes), and from them I had often their vivid and interesting recitals of those battles and sieges, with every minutiae; and my own testimony is this (the same indeed as that of Cook and others) that *the New Zealander never knew the use of the bow and arrow, nor of the sling proper*, as used, for instance, by the natives of Tahiti.

As to the use of the little instrument called a *kotaha* (sometimes a *kopere*, though, more properly speaking, the *kopere* was that by which the *kotaha* was thrown.) I have ever had very grave doubts of its being a true New Zealand implement; for the endeavour to learn something about it (when first prosecuting my enquiries 40–45 years ago)

349 WC: Polack says:—“The weapons employed in the native warfare were not remarkable for beauty or variety, and are now entirely laid aside. The bow and arrow found among all savage nations were unknown in the country, where numerous woods exist admirably fitted for the formation of such universally known weapons. Slings, another implement that did much execution, were also unknown.” (Vol. II., pp. 28–29). Polack is a writer whom I should scarcely ever think of quoting, not merely on account of his being comparatively modern (in my writing of the ancient New Zealander) but owing to his many errors; had he contented himself with giving us plainly what he saw, without colouring (for he travelled a little while in New Zealand), and without attempting anything of science or history, theology or language, or the drawing of deductions,(!) for all which he was totally unfitted, then his observations would have been of real service.

always ended in disappointment. On this head I could say a good deal, but for the present I forbear.

Here, however, are a few things that should not be lost sight of in this investigation: 1. That in all those *old* Maori tales of fightings and battles and sieges, and especially the killing of monsters (*taniwhas*, some of which I have lately translated), while every possible weapon known to the old Maori, both of offence and defence, including even walking-sticks, is always carefully noticed, nothing of the kind in question (*missiles*) save plain common hand-spears, are ever mentioned;<sup>350</sup> and yet, for those very purposes, no other weapon would have been so useful. 2. That just as the old New Zealanders were early taught how to use the bow and arrow (and, no doubt, the sling also, by Tupaea and Taiota), as Parkinson says, so were they in after years taught how to make and use the bow and arrow, by myself and other of the early missionaries, as implements of sport for the boys, both of the mission families and of the Maori families living with us. I have made several for them, but the young Maoris of that day *never took to it*, from the fact of its not being a national weapon, and not falling in with the genius of the Maori. 3. That from the beginning of this century, or even earlier, the New Zealanders went often abroad in ships as visitors, [111] especially to New South Wales; indeed, a very extensive intercourse was then and for many years carried on between Port Jackson and New Zealand, partly owing to the whale and seal fishery.<sup>351</sup> 4. That on Mr. Marsden's visit (1814) several foreigners were residing in New Zealand; mention is particularly made, among others, of a Tahitian,<sup>352</sup> and a Hindoo, who were dwelling with the Maoris as Maoris, and who had quite made this country their home, without a wish to leave it; Major Cruise also, in 1819, found a native of the Marquesas<sup>353</sup> Islands fairly settled among them; and that for many years convicts from the neighbouring penal colonies were continually escaping thence to New Zealand. 5. That from 1820–1840 young New Zealanders were frequently entering whale-ships and other vessels, to serve on cruises in the South Seas, several of whom returned to their native country and settled. 6. That during several years, after the arrival of the missionaries and *before* the formation of the colony, many harbours in New Zealand, and the Bay of Islands in particular, were the common resort of American, Colonial, and other whalers, whose crews were composed of men of many nations and of all colours; and among them were often natives from the East, including China and the South Sea Islands, some of whom settled in New Zealand, and no doubt many of them taught the New Zealander not a few novel things. 7. Two old sayings of the Maoris bearing on this subject I would also adduce:—1. Their terse old proverb, "*He tao rakau ka taea te pare, he tao kūekore e taea*"—a wooden spear can be parried,<sup>354</sup> a slenderous word<sup>355</sup> cannot be parried. Now, if any other more destructive missile were known and in use among them, than the common hand-spear, surely such would have been preferred here. 2. Their saying, on the introduction of firearms, and for a long time after, that the only thing they

disliked them for was, that by them the warrior fell as well as the slave at a distance,<sup>356</sup> before that the hand-to-hand fight begun:<sup>357</sup> another proof that deadly missiles acting at a distance were not known. (8) Further, in all their very many proverbs and sayings there is no allusion to any such thing.

My own opinion has long been, that the old New Zealanders (ever quick and able imitators, especially in any matter connected with warfare), having early had lessons from the Tahitian, Tupaea (whom they all but adored) and his son, Taiota, and also on Cook's second voyage from Tahiti to New Zealand, from Mahine, the native of Porapora, in the arts of fashioning and using projectiles, perhaps endeavoured to adopt them, and [112] possibly did so to a certain poor extent; but the great facility with which they very soon acquired firearms caused them to set those missiles aside. What they might have done and perfected, having once been put into the way, had they remained isolated and not obtained muskets, is another matter.

I have been led to make all these almost extra remarks through noticing what was said by a Mr. Grace at the time of the reading of Mr. Phillips' paper, as reported (I am sorry to find) in the "Proceedings" (Vol. X., p. 527). Mr. Grace might equally as well have said, that because *he* had always seen the Maoris playing at draughts, or growing and eating melons, peaches, and potatoes, *ergo*, such were indigenous! Such observations tend to mislead (being wholly erroneous), and will mislead still more in the future unless refuted; hence, in great measure, I now write to such an extent. It is from such superficial remarks that the works of Tylor, Lubbock, and Herbert Spencer, and others, become of less value than they would otherwise be, through everything being gathered and admitted as of *equal* authority!

And just so it is (I regret to say) with some of the remarks made by Mr. Phillips himself in this very paper; *i.e.*, in my estimation they are deceiving, because they assume the very thing we are in search of—"the whence of the Maori?"—a problem by no means yet proved. Yet Mr. Phillips says:—"I have often wondered how it is that the aborigines of New Zealand should have made so little use of the bow and arrow, this being a weapon peculiarly suited to savage tribes, *and, moreover, the familiar one of their ancestors.*" (Where did Mr. Phillips get this?) Again, speaking of the toy-arrow he had been describing, he says:—"In itself it is a harmless weapon, and how it happens that the Maoris, a section of the Polynesian race, should have thus allowed so useful a weapon as the South Sea bow and arrow to *degenerate* into a mere toy,<sup>358</sup> is to me a curious circumstance." (S. Parkinson's remark on this very point, already quoted by me at p. 108, made a hundred years ago, is far more rational *every way*; but then Parkinson, although he had seen more, had no preconception, no pet hobby to support!) Further, Mr. Phillips says:—"It is well-known (?) that in olden days the Maoris *launched their spears* against a hostile fort by means of a whip, similar to the one above described, and they were even able to *hurl stones a long distance.*" (Whence, too, is this derived?) Lastly, Mr. Phillips winds up his paper by saying:—"All these weapons,

350 WC: And even these darts, it should be observed, are not spoken of as thrown at the *taniwhas*.

351 WC: See appendix B.

352 WC: Nicholas' "New Zealand," Vol. I., p. 92.

353 WC: Cruise's Journal, p. 198.

354 WC: Lit., a spoken spear.

355 WC: See appendix, note B, for an illustration.

356 WC: Lit., died like a nobody—a fool.

357 WC: The chiefs and the principal men urged onward the rush of the vanguard, but were not in it; they followed.

358 WC: Vide post "Proceedings H.B.P. Institute, ordinary meeting, September 9, 1878," for an interesting account of the introduction into New Zealand of this "toy arrow," by a living witness.

however, fell into disuse after the introduction of fire-arms some sixty years ago, which may account for the *disappearance of the bow and arrow.*" To which statement, I trust, this paper will be found a complete answer. [113]

Mr. Phillips also gives an account of a "pigeon spear," made out of a rough unworked piece of a "raataa vine."(!) Just so; that is the poor *modern* spear, hastily put together by the lazy, loquacious, itinerating Maori of modern days! but such make-shifts were not (commonly) used by his forefathers, although I have seen them<sup>359</sup> stored up in the mountain forests; they were far above it.<sup>360</sup> And then follows the novel idea of "trapping the brown parrot by means of a shorter hand-spear."(!) As if parrots were ever caught in that way! The Maoris had but one general mode of taking the parrot (*kaakaa*), which was admirably adapted and serviceable, and is still in use in the dense forests of the interior.

My Note, referred to at p. 106, is as follows:—"Note 7, par. 15, § 2.—Travelling beyond the East Cape in January, 1838, I arrived at Waapiro (Open Bay), and striking inland over high hills reached a place called Tapatahi, where were the remains of a famous stronghold or *pa* of the olden time. This fort is strongly situated on the abrupt precipitous end of a high hilly yet narrow range, and made impregnable by art; the only possible way of access leading from the top of the ridge, but this the Maoris had completely secured by cutting a deep fosse across it. The Ngatimaru tribe, arriving in their canoes from the North, well armed with muskets for the purpose of slaughter, the people of this neighbourhood took refuge in their stronghold on the crag, where they were regularly besieged. Several hundreds of Maoris were cooped up in it, and for some time the place was closely invested; and though provisions fell short among them there was no outlet of escape. The besiegers getting both tired and hungry (!)—for the entrance end of the fort was made so high above the deep-cut fosse that musketry could effect nothing, unless any one of the besieged wilfully exposed himself—at last the besiegers hit upon a mode of attack and assault which proved successful; they prepared sticks with dry combustibles fastened to one of their ends, while to the other was tied a strip of flax-leaf, and the wind being favourable, they set fire to them, and then whirled and flung those flaming darts across the ditch into the *pa*, where, alighting on the dry thatch roofs of the houses and sheds, the whole was soon on fire; then, in the confusion, the assault was made, under cover of their muskets, and the slaughter was very great, even for a successful Maori attack! Many of the unfortunate besieged threw themselves down the precipice in sheer desperation, and only a very small number escaped with their lives. There is a small moat or pool of deep water close to the base of the precipice on one [114] side, and possibly a lucky few might have fallen into it, and so broke the force of their fall. The whole spot is a most romantic one naturally, and at the time of my visit it was desolate and bare—a sad and striking memento of the horrid past!"

The, Editor of the "Transactions," in a note of his own appended to Mr. Phillips' paper, refers us to three works, viz.:—

359 WC: That is, a spear-head, fitted on to the rough stem of a large creeper (vine): but never on a raataa (*Metrosideros robusta*).

360 WC: If I mistake not there will be a full description of a "pigeon spear," and how it was made, one of the wondrous works of old! in those Notes of mine.

1. Sir G. Grey's "Polynesian Mythology," p. 157. The single case there mentioned is said to have taken place in the very beginning of Maori history, and was just simply the whirling of a fire-brand on to a thatched roof, much the same as the circumstance above related from my *Notes*.

2. Dr. Thomson's "Story of New Zealand," Vol. I., chap. 7. In this relation (as well as in several other places in his book) there is much of error, as must always be the case with all *modern compilers* who may follow in the Doctor's wake; for (1) Dr. Thomson has completely ignored all that was written by Cook and others,<sup>361</sup> although he has given a list of their works, and the question has often arisen in my mind, did Dr. Thomson ever read them? (2) Knowing nothing himself personally of the matters in question, he copied freely, and picked up and set down *all* that he heard, too often hastily drawing conclusions. Hence it was that he says of their projectiles—"Occasionally red hot stones were thrown from slings in the hope of setting *pas* on fire; so were slight javelins, sharp and jagged at the point; occasionally they were pointed with bone, or the barb of the stingray; these were discharged by slings from elevated platforms, etc. Bows and arrows were not unknown, though never used in war." (Vol. I., ch. 7.)

3. Mr. White's new work, "Te Rou," is one of fiction, and his long note, referred to by the Editor, is suited to it; it is of no use here.

#### APPENDIX A.—(See p. 109).

Dr. Forster says:—"The weapons which the men of Tanna constantly carry are bows and arrows, clubs, darts, and slings. Their young men are [115] commonly slingers and archers, but those of a more advanced age make use of clubs or darts. The bows are made of the best club-wood (*casuarina*), very strong and elastic. They polish them very highly, and perhaps rub them with oil from time to time, in order to keep them in repair. Their arrows are of reed, near four feet long. The same black wood which the Mallicolese employ for the point is likewise made use of at Tanna; but the whole point which is frequently above a foot long, is jagged or bearded on two or three sides. They have likewise arrows with three points, but these are chiefly intended to kill birds and fish. Their slings are made of cocoanut fibres, and worn round the arm or waist; they have a broad part for the reception of the stone, of which the people carry with them several in a leaf. The darts or spears are the third sort of missile weapons at Tanna. They are commonly made of a thin, knotty, and ill-shaped stick, not exceeding half-an-inch in diameter, but nine or ten feet long. At the thickest end

361 WC: In addition to what we have on record (already referred to) by Cook and others, there are a few early celebrated known engagements, attacks on Maori forts by Europeans, when, if ever, the Maoris would have used such projectiles, viz:—(1) That by the French under Crozet, in revenge for the death of their commander (Marion) and his men, when they attacked and took their stronghold or fort in the Bay of Islands. See App. C. (2) That of the combined crews of five whalers on the *pa* in the islet in Whangaroa harbour in revenge for the taking and burning of the "Boyd," and the killing of the captain, passengers, and crew. (3) That of the soldiers and sailors of H.M.S. "Alligator" on the *pa* at Wamate, near Cape Egmont, in revenge for their having plundered Guard's ship, &c. In all these cases the Maori *pas*, or forts, securely fenced and well situated (after the old custom) and almost inaccessible, were attacked and taken; and yet, while the Maoris defended themselves well and long, nothing was seen, or shown, or used, in the shape of "slings" and "hot" stones," "bows and arrows, jagged darts, and poisoned kotahas! (Jam satis!)

they are shaped into a triangular point, six or eight inches long, and on each corner there is a row of eight or ten beards or hooks. These darts they throw with great accuracy, at a short distance, by the help of a piece of plaited cord, four or five inches long, which has a knob at one end, and an eye at the other. They hold the dart between the thumb and forefinger, having previously placed the latter in the eye of the rope, the remaining part of which is slung round the dart, above the hand, and forms a kind of noose round it, serving to guide and confine the dart in its proper direction, when it is once projected. I have seen one of these darts thrown, at the distance of ten or twelve yards, into a stake four inches in diameter, with such violence that the jagged point was forced quite through it. The same thing may be said of their arrows; at eight or ten yards distance they shoot them very accurately and with great force; but as they are cautious of breaking their bows, they seldom draw them to the full stretch, and therefore, at twenty-five or thirty yards, their arrows have little effect, and are not to be dreaded."

"The arms of the natives of New Caledonia were clubs, spears, and slings. ... Their spears are fifteen or twenty feet long, and black. They throw them by the assistance of such short cords, knobbed at one end and looped at the other, as are usual at Tanna, and which seamen call beackets. Those of New Caledonia were of superior workmanship, and contained a quantity of red wool, which we should have taken for the covering of a new sort of animal, if we had not formerly seen the Vampyre or great Indian bat, from whence it was taken. Their last weapons were slings, for bows and arrows were wholly unknown to them. These slings consisted of a slender round cord no thicker than a pack-thread, which had a tassel at one end and a loop at the other end and in the middle. The stones which they used were [116] oblong and pointed at each end, being made of a soft and unctuous soaprock (*simectites*), which could easily be rubbed into that shape. These exactly fitted the loop in the middle of the sling, and were kept in a wallet or pocket of coarse cloth, strongly woven of a kind of grass, which was tied on about the middle. Their shape gives them a striking resemblance to the *glandes plumbeæ* of the Romans."—*Forster's Voyage*, Vol. II., pp. 278, 279, 385.

#### APPENDIX B.—(See p. 111).

I here give an interesting extract from "Turnbull's Voyage Round the World" (1801–4), as it bears a little on the subject before us:—

"A chief of note named Te Pahi, with five of his sons, who resided at the Bay of Islands, wished to see Port Jackson. They were taken by Captain Stewart in his ship to Norfolk Island, where they received every attention from the commandant and inhabitants; and after remaining there some time they were received on board H.M.S. 'Buffalo,' to be conveyed to Port Jackson. On their arrival, Te Pahi was introduced by Captain Houstin to His Excellency and the officers at the Government House, where he continued to reside during his stay in the colony.

"Shortly after his arrival, a number of the natives assembled in the vicinity of Sydney for the interment of Carrawaye (whose death was occasioned by a spear wound in the knee), who the night before was conveyed here in a shell composed of strips of bark; and the funeral obsequies being over, a war spectacle ensued, when an intended sacrifice to vengeance (known by the name of Blewit) was singled out to answer for the desperate wound inflicted by him upon

young Baker. The animosity of his assailants was uncommonly remarkable; their party was far the more powerful, and, confident of their superiority, took every advantage of their numbers. The flight of spears was seldom less than six, and managed with a precision that seemed to promise certain fatality. After 170 had been thus thrown, ten of the most powerful stationed themselves so as nearly to encircle the culprit, and front and rear darted their weapons at the same instant. His activity and strong presence of mind increased with the danger; five he dexterously caught with his feeble target, and the others he miraculously managed to parry off. One of his friends, enraged at the proceedings, threw a spear, and received ten in return. Blewit turned one of his assailant's spears, and passed it through the body of old Whittaker; the affray then became general, but terminated without further mischief.

"Te Pahi, who with several of his sons was present, regarded their warfare with contempt; he frequently discovered much impatience at the length of intervals between the flights, and by signs exhorted them to dispatch; [117] he considered the *heclaman*, or shield, an unnecessary appendage, as the hand was sufficient to turn aside and alter the direction of any number of spears. He, nevertheless, highly praised the *woomera*, or throwing-stick, as, from its elasticity, he acknowledged the weapon to receive much additional velocity. He was visibly chagrined when he saw the old man wounded through the body, and would certainly have executed vengeance upon its author, had he not been, restrained by the solicitations of the spectators."—*Nicholas' "New Zealand,"* Vol. II., p. 369.

#### APPENDIX C.—(See p. 114).

M. Crozet's description of this attack is so graphic, and at the same time so much in keeping with what I have known to take place among the New Zealanders in their old sieges, that I am tempted to give an extract, as I believe his work is not commonly known in the colony:—M. Crozet commanded the King's sloop of war, the 'Mascarin,' under M. Marion, and put into the Bay of Islands in distress, having lost his masts. With great difficulty they cut down fir trees, some three or four miles off in the woods, and to get them out had to make a road! They had now been here at anchor thirty-three days, when the Maoris suddenly rose against the French, and killed Marion, with twenty-eight men! and it was with extreme difficulty that Crozet managed to get on board the ship those left on shore. After this the New Zealanders made several attempts to take even the ships, which they fiercely attacked in a hundred large canoes. At last Crozet, seeing it impossible to supply the ships with masts, unless he could drive the natives from the neighbourhood, went to attack their *pa*, which was one of the greatest and strongest. He put the carpenters in front to cut down the palisades, behind which the natives stood in great numbers on their fighting stages, from which they threw down stones and darts.<sup>362</sup> His people drove the natives from these stages by keeping up a regular fire, which did some execution. The carpenters could now approach without danger, and in a few moments cut a breach in the fortification. A chief instantly stepped into it with a long spear in his hand. He was shot dead by Crozet's marksmen, and presently another occupied his place, stepping on the dead body. He likewise fell a victim to his

<sup>362</sup> WC: As described in Cook's Voyages, Vol. II., p. 342–344.

intrepid courage, and in the same manner eight chiefs successively defended the post of honour. The rest, seeing their leaders dead, took flight, and the French pursued and killed numbers of them. M. Crozet offered fifty dollars to any person who should take a New Zealander alive, but this was absolutely impracticable. A soldier seized an old man and began to drag him towards his Captain, but the savage, being unarmed, bit into the fleshy part of the Frenchman's hand, of which the exquisite pain [118] so enraged him that he ran the New Zealander through with the bayonet. M. Crozet found great quantities of dresses, arms, tools, and raw flax in this *pa*, together with a prodigious store of dried fish and roots. He completed the repairs in his ship without interruption after accomplishing this enterprise, and prosecuted his voyage after a stay of sixty-four days in the Bay of Islands.—*Forster's Voyage*, Vol. II., pp. 461–465.

### 1878 Notes on the genus *Callorhynchus* with a description of an undescribed New Zealand species.

*Transactions of the New Zealand Institute* 11: 298-300.

[Read before the Hawke Bay Philosophical Institute,  
12th August, 1878.]

In a "Catalogue of the Fishes of New Zealand with Diagnoses of the Species," compiled by Captain Hutton and printed for the Colonial Museum in 1872, only one species of the genus *Callorhynchus* is mentioned as belonging to our seas—*C. antarcticus*; but, as I take it, there are several other species, two of which I have seen, viz., *C. australis*, Hobson, and an undescribed one, which I believe to be a *species nova* (*C. dasycaudatus*, mihi), of which I shall give a fair diagnostic and specific outline in this paper.

It was in December, 1844, that I first saw this fish. I was leaving Poverty Bay in a brig, bound for this place, when, on passing the heads, we saw some Maori canoes fishing, one of which paddled alongside and sold us some of their fish they had just taken; among them was one that I had [299] never seen before; I knew it was of the genus *Callorhynchus*, and, as I thought, distinct from *C. antarcticus* (the only species of that genus then known to me), so I took a sketch drawing of it, with notes of its dimensions, etc., which I now give.

#### *Callorhynchus dasycaudatus*, mihi.

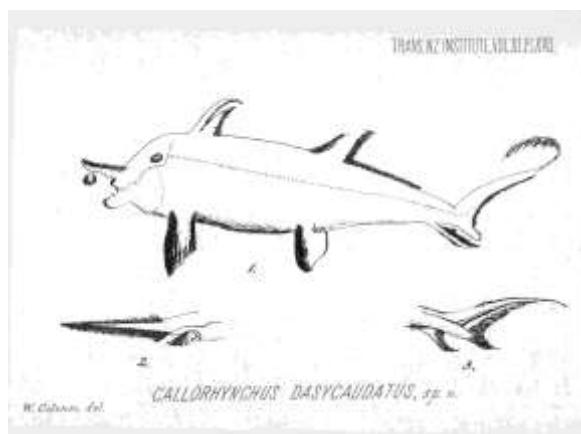
Total length, 3 ft. 3 in.; girth, (belly) 1 ft. 5 in.; length of pectoral fin, 9 in.; first dorsal fin, 5 in.; of attached bony ray, 7 in.; length of tail, from angle in upper surface, 12 in.; length from snout to anterior base of first dorsal fin., 9½ in.; the bony ray in front of the first dorsal fin is partly separated from that fin, it is a little curved, and barbed slightly on the posterior edge; the extremity of the tail is free and feathered, which, being such a great peculiarity and so very characteristic of this species, has given rise to its specific name. Whole fish silvery white, but highly iridescent; the fins of dark grey colour. It had no teeth, only palatal bones; a crayfish was found in its maw.

In its produced whip-like tail and barbed dorsal spine this species approaches more nearly to its northern congener,

*Chimaera arctica*, Linn., formerly the type of the genus, before that *Callorhynchus* was separated from it by Cuvier.

Captain Hutton, in the work above cited (p. 74), gives as a character of this genus, "extremity of the tail distinctly turned upwards;" I scarcely understand this; such is certainly not the case in the one species mentioned by him as belonging to these seas, *C. antarcticus*; neither does any such character belong to *C. australis*,—another of our species, which I have also seen. Both of those species also differ widely from *C. dasycaudatus*, in the very large size of their pectorals, which overlap the base of their ventrals. Drawings of the tails of those two species I also give in the subjoined plate.

I also note that Dr. Richardson, in a paper on some new Tasmanian fishes, read before the Zoological Society in 1839, has another new species, *C. tasmaniensis*, which may also be found here in our seas; I have, however, never seen it. It differs from those two species last mentioned in the size of its pectorals; in which respect it approaches to *C. dasycaudatus*. Dr. Richardson gives the following characters to distinguish it from *C. antarcticus* (probably at that time *C. australis* was unknown to him)—"pinnæ pectoralibus ad ventrales haud attingentibus; pinnæ dorsi secundâ pone ventrales incipienti, ante lobum anteriorem inferiorem pinnae caudæ desinenti." And then he adds: "This species agrees with the *Callorhynchus smythii* of Benne, figured in Beechey's Zoological Appendix, in the distance between the pectorals and ventrals, but is so unlike that figure in other respects that it is impossible to assign it to that species." Of this last mentioned species (*C. smythii*), I know no more than what I have here quoted; should it be found in our seas, then, we may probably count on having five species of this genus. [300]



#### DESCRIPTION OF PLATE.

1. *Callorhynchus dasycaudatus*, Col.
2. *Callorhynchus antarcticus*, Cuv. (tail only).
3. *Callorhynchus australis*, Hobson (tail only).  
(N.B.—The figures are drawn to one scale.)

Dr. Hobson, of Tasmania, has given an admirable description of *C. australis*, which he dissected and described in 1840 (Tasmanian Journal of Natural Science, Vol. I.) This species is near to *C. antarcticus* in the size of its pectorals, etc., but widely different in the shape of its tail. Its length is said to be 2 feet 6 inches. His whole paper is replete with valuable and interesting information relative to the viscera, and other organs and parts of this peculiar fish. One short sentence only can I quote:—"The inferior

extremity is especially interesting from its quadruped-like form; here is, in reality, the pelvis of the fish." I quote this the more willingly in hopes that some of our young anatomists (to whom that circumstance quoted may be unknown), may also be led to dissect and describe other species of this curious genus; seeing, too, that they are not uncommon here on our shores during the summer.

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### 1878 Notes on the metamorphosis of one of our largest Moths—*Dasypodia selenophora*.

*Transactions of the New Zealand Institute* 11: 300-304.

[Read before the Hawke Bay Philosophical Institute, 10th June, 1878.]

ON the 21st January, 1878, my attention was called to an unusually large caterpillar, apparently asleep on the trunk of an Acacia tree (silver wattle). At first sight, it seemed so much like the bark of the tree in hue, that it was not readily distinguished from it. The larva was stretched out to its full length, nearly 3" 6"<sup>363</sup>; it was elongate, and of the ordinary form, pretty evenly cylindrical throughout, though thickest in the middle and tapering towards its head and tail, and skin smooth. In colour, it was peculiarly mottled or finely speckled (irrorated) with very minute points of black, red (carmine), and ash colours—the latter predominating—which, combined, and at a little distance gave it the colour of the reddish-grey bark of the tree above-mentioned. It had two minute bright red (carmine) spots close together on its back, near the tail, and when in motion two large triangular dark splashes were displayed on its back; the colour of the belly of the larva was pale (dull white), with several round olive spots in pairs, corresponding to its belly feet. Its head was small, of a pale Indian-yellow colour; its hind feet were large, and it had also two broad anal feet. [301]

On being touched, it coiled itself up very rapidly and closely. This it did many times, so that it was difficult to get to see its under parts. It did not seem inclined to crawl, and was very quiet. I put it under a large bell-glass, and tried it with various leaves, but it would not eat anything; so I left it, thinking it would shortly undergo its transformation.

The tree on which I found it was a large old one, and it was on its main stem about 4 feet from the ground; how it came there was a mystery, for there were no shrubs nor plants nor even grass near,—it being the very middle of our dry season (which this year was extreme), and while the upper overhanging branches of the tree were several feet above my head.

All that day and part of the next it remained very quiet, still keeping stretched out to its full length, but not moving; it ate nothing, though on the 22nd it discharged several large pellets (faeces), of an obtuse cylindrical shape.

I kept watching it daily, and on the 25th January I found it had spun a small white web (cocoon) with which it had managed to bring together and curl down around it the edges of a large leaf of the common red geranium, fastening

also the leaf pretty closely to the sheet of paper below, so that I could not get a single glimpse of the larva, although I tried many ways; but as the weather was so hot and dry, and the leaf quickly withering, I soon left off making any further attempts to observe it, fearing I might injure the larva.

Several weeks passed and no sign of its change appeared; and I was almost getting tired of making so many diurnal visits, when, on the morning of the 21st of March, I found it had emerged a perfect insect, a large moth of wondrous beauty! I do not think that it had left its pupa-case during the night, as there was but a very small amount of its long downy covering about the glass; for had it done so, being a nocturnal creature and of a large size, it would surely have knocked itself about a good deal in its vain attempts to get out.

I may truly say that I gazed on it with pleasure and astonishment; for though I had pretty largely known our New Zealand Lepidoptera (having collected many hundreds of species some 25–40 years ago)<sup>364</sup> I had never before seen one like this. It differs too, very considerably from our British species, although I thought I had formerly seen something not altogether unlike it in books. There, however, it was, a handsome large black moth, forming almost an equilateral triangle of 1" 6" as it remained at rest. I [302] knew that it belonged to the *Noctuina* group, but that was all. So I sent an outline of its appearance to Mr. Fereday, the celebrated entomologist residing at Christchurch, enquiring if there were any such specimens in the Museum there, or if he knew of such a moth. From Mr. Fereday I received a very kind and full reply, that, while there were no specimens of this moth in the Canterbury Museum, he had one (a female) in his own possession, which had been taken some years ago at Nelson; and that, though rare, the perfect insect had been described, and was the *Dasypodia selenophora* of Guenée.<sup>365</sup>

And now for a brief description of the perfect insect.

Its size across, with wings extended, is 3" 3"; length of body, 1" 3"; the body thick, with 7 segments, but tapering downwards rapidly from its second segment almost to a point at the tail (not unlike, in this respect, those well-known British species of the *Sphingidae* family, *Smerinthus tiliæ*, and *Chærocampa porcellus*), and densely covered with very long down. Antennæ, nearly 1" long, slender and evenly attenuated, but not smooth, being apparently very finely and regularly ringed and serrulated; legs, large and stout.

Its colour, on the other side, when living, was a sooty black; but after death it changed to a dark umber colour, with dark zig-zag and other markings on its wings (somewhat resembling those on the wings of the Emperor Moth, *Saturnia pavonia-minor*, and with a peculiar large and lustrous ocellated spot on each fore wing near the costa—in a line with the anal angle; all the wings are ciliated, bearing minute whitish dots at the extremities of the nerves or rays just within the margin. Its colour on the under side was ochrous or fulvous; the legs, amber-coloured below the knee,

364 WC: I may here mention that the moth described in Dr. Dieffenbach's work on New Zealand, Vol. II., p. 284, (*Hepialus*) was also raised by me from larvae which I had fed on kumara leaves, much to the annoyance of the Maoris in those times, who made a great fuss and objection to my so doing. (See note at end.)

365 WC: In Spécies Général des Lépidoptères Nocturnes.

but its thighs were ochrous, and thickly covered with excessively long and waving down; its horns also were ochrous coloured but darker at their bases.

While living, it was a truly superb, rich, velvety-looking creature; presenting, too, when at rest, such a regular and graceful equi-triangular outline. The eyes on its wings had (if I may so express myself) a living look, much as the irises of the eyes of men and animals are sometimes drawn when represented under bright light. Those spots, or eyes, were all alike, black, but the two circular rims round each, and the lunate or triangular iris-pupil-like part within were shining lustrious and waxy, or as if strongly gummed. What with its fine moony eyes on its wings, and its long wavy down on its thighs, it well deserved its expressive name, both generic and specific. I could not help thanking its describer, for it is not often that we find so fit and distinguishing a name given in these modern [303] times, either to an animal or to a plant. Much, however, of its surpassing beauty quickly faded after death, which I attributed to the fumes of the sulphur I had used in killing it, not having any chloroform at hand, and leaving home on that very day by train to visit the country schools.

The *pupa*-case (after the moth had emerged) is nearly cylindrical, very obtuse at the head, and tapering regularly downwards from end of folded wings at 4th segment, and pointed conical at the tail; length, 1" 3", and diameter in thickest part 6"; suspended slightly by tail; well-marked in front with folds of wings and antennæ, eyes and head of *imago*, and very strongly with 7-ringed segments, each having two long spiracle marks, one on each side. Colour dark red (garnet), with a blueish or violet bloom (dust), but smooth and shining on its prominent parts.

*Cocoon* very small, white and coarse, almost woolly; just sufficient to hold the edges of the leaf down to paper, where, however, it was strongly fastened; faecal pellets emitted after enclosure.

The *imago* had made its exit by a small round hole at the top of pupa-case, back of the head, the case having also slightly given way down the costal marking of the wings on each side.

NOTE.—Dr. Dieffenbach saw the moth I had raised from the larvæ referred to (in the note, p 301), at my house in the Bay of Islands, where he was a frequent visitor during his stay there in the summer of 1840–1841; and from me the doctor obtained not a few specimens and much information (like many other visitors of that early period), which, however, he never acknowledged.

As it may be of some little interest I will just quote what I then wrote about that *larva* and *imago*, in a letter to Sir W. HOOKER, dated "July, 1841," and published by him in the London Journal of Botany (1842), vol. I., pp. 304, 305.

"In a phial you will find specimens of what I believe to be the true larvæ of *Sphaeria robertsii*.<sup>366</sup> These larvæ are abundant in their season on the foliage of *Batatas edulis*(?)<sup>367</sup> the *kumara* of the New Zealanders; to the great distress of the natives, who cultivate this root as a main article of their food, and whose occupation, at such times, is to collect and destroy them, which they do in great numbers. They vary a little in colour, as may be observed in the

specimens sent. The New Zealanders call them *Hotete* and *Anuhe* (the same names which they apply to the *Sphaeria robertsii* itself), and always speak of them as identical with that *Fungus*. The common belief is, that both (those living on the *kumara* and those which bear the *Fungi*) alike descend from the clouds! this opinion doubtless arising from their sudden appearance and countless numbers. [304]

"A moth from the larvæ also accompanies the above, for I have fully satisfied myself of their identity. In 1836 I kept the larvæ under glasses, and fed them with the leaves of *kumara* (much to the annoyance of the natives), until the perfect insect was produced. There cannot reasonably exist a doubt that this insect deposits or drops some of her eggs on the branches of the *raataa* (*Metrosideros robusta*, A.C.), beneath which tree alone the *Sphaeria robertsii* has hitherto been found, when they (the larvæ) fall to the earth beneath, die, and the *Sphaeria* is produced.

"I think I can offer a fact for consideration relative to their being only (or chiefly) found beneath *Metrosideros robusta*. One fine evening last summer, when enjoying, as usual, a promenade in my garden, just as the sun had set, I was admiring the splendour of some plants of *Mirabilis*, which had just unfolded their scarlet petals. Suddenly several of these moths made their appearance, darting about the plants in every direction, pursuing one another, and eagerly striving to obtain the honey which lay at the bottom of the perianths of the *Mirabilis*. From this plant they flew upwards to the flowers of a stately *Agave* (*A. americana*), where, being joined by other moths, their congeners, their numbers soon increased; and thus they continued to enjoy themselves every evening during the whole season. The inference I deduce is this, that the *M. robusta*, blooming at this season, having scarlet flowers which abound in honey, becomes the centre of attraction of these insects—increased, too, by its densely crowded *coma* of inflorescence, more particularly so from the blossoms being always at the extremity of its branches; by which, and by their colour, this tree may at once be distinguished from the other denizens of the forest, even at a great distance.

"The larva whereon the *Sphaeria* is found, when first taken out of the earth, is white internally, and appears solid and succulent. A finely-cut slice, when held against the light, presents a beautiful appearance."

I may further add that, 25–30 years back, I had a honeysuckle (*Lonicera periclymenum*) trained round the doorway of a house in my garden. This plant flowered abundantly in the summer, and it was interesting and curious of an evening to sit on the step (as I have often done) and watch those large moths (*Hepialus*); they would visit the plant in great numbers, and unrolling their long proboscis, probe the flowers to get at the honey, passing quickly from flower to flower, and continually coiling and uncoiling their long trunks with great rapidity; they never lighted on the plant, and all the time kept up a tolerably loud humming noise from the quick and incessant vibrations of their wings, which, indeed, drew the attention of the cats, who often, in consequence, captured them.

366 WC: *Cordiceps robertsii*.—Hand Book, Fl. N.Z.

367 WC: *Ipomaea chrysorrhiza*.—Hand Book, Fl. N.Z.

**1878 A description of two New Zealand Ferns, believed new to Science.**  
*Transactions of the New Zealand Institute* 11: 429-431.  
 [Read before the Hawke Bay Philosophical Institute,  
 14th October, 1878.]

**I. CYATHEA**

*Cyathea polyneuron*,<sup>368</sup> sp. nov.

*Trunk* stout, 12–15 feet high (garden plant 12 years old, 6 feet high, 3 feet in circumference under bases of fronds, and 2–6 at one foot above ground), densely covered with long black hairs, and marked with scars of fallen fronds.

*Fronds* (garden plant), 10–12, ample, grass-green colour above, paler below, gracefully drooping, 10–12 feet long, 4 feet 6 inches broad (in middle), oblong-lanceolate, membranaceous when first expanded, afterwards sub-coriaceous, tripinnate, glabrous above, floccosely hairy and woolly on veins and veinlets below.

*Stipes* stout, 12–15 inches long, 8–9 inches in girth at base, muricated, of a dark mahogany colour below and light yellow-green above, regularly marked with a light-coloured straight yet broken line running on both sides [430] from pinna to pinna the whole length of the stipe and rachis, each mark or dash, 6–8 lines long, having an interval or break of 1–2 lines; densely covered with long brown shining linear scales 1½–2 inches long and nearly 1 line wide at the base, curved transparent acuminate and pointed, beautifully and regularly marked, with finely serrulate edges, and having beneath them a thick rough plush-like undergrowth of blackish-brown shining finely barbed or jagged hairs.

*Rachis* and *subrachis* muricate, also densely covered with a thick coating of short dark plush-like hairs, which easily rub off; above, together with the *costae* and *costules* densely hirsute (dark) and woolly (light-coloured).

*Pinnae* alternate, 23–26 jugate, oblong-lanceolate, petiolate, (central) 2 feet 6 inches long. 10–12 inches broad, 6–7 inches distant (lower 10 inches) on rachis.

*Secondary divisions* or *pinnules* alternate, 30–32 jugate, linear-oblong acuminate and sub-caudate, 5–6 inches long, 1–1½ inches broad, petiolate, pinnate, thickly covered below with jagged acuminate shining silky light-coloured scales, each being curiously sprinkled with very long dark-brown hairs.

*Segments* alternate, 30–32 jugate, close set, linear, sub-falcate, crenately serrate, 9 lines long, 2–3 lines broad, widest at base, lowermost subpinnatifid petiolate and auricled downwards, barren ones broader, deeply serrate or sub-pinnatifid.

*Veins* very numerous, conspicuous and translucent, bi-pinnately branched; *venules* 10–12 in each lower lobe, and running quite out into the margin.

*Sori* numerous, crowded, 12–16 on a segment, one on each lobe; *involute* globose, transparent green and hyaline at first, afterwards light-brown, splitting irregularly.

This tree-fern is a fine and graceful species; one that at first sight, and without examination, may be easily mistaken for

*C. medullaris*, which it much resembles,—but differs from that species in its general hairiness and and woolliness, in its larger size of frond (breadth, etc.) and richer appearance, in its pleasing grass-green colour, its truly pinnate segments, its peculiar hairy scales and its numerous pinnate veins,—these last two marks being its specific characteristics, and its very numerous veins or venules in a lobe, the origin of its trivial name.

I have known this fern for some 10–12 years at least. In 1865–6 I found a young plant growing here on my ground (Scinde Island, Napier) among the common fern (*Pteris esculenta*), and removed it to my garden, where it has done exceedingly well, although last summer it suffered from the very long drought. At first, and for some years, I had supposed it to be *Cyathea medullaris*, but for the last four years, during which it has borne fruit abundantly, I have believed it to be a new and distinct species; having [431] also obtained specimens of similar plants from the eastern slopes of the Ruahine Mountain forests, as well as from smaller woods near the sea on the east coast.

In general appearance this species is by far the handsomest of our (known) New Zealand Tree-ferns, its ample fronds having much less rigidity than those of the other larger species. Of my garden-plant the fronds shoot early in spring, and grow remarkably fast, at the rate of about 4½ inches longitudinally per diem; the outer ones, however, die rather early in summer, owing, I believe, to the extreme dryness of the soil on the limestone hill where it is growing; and, in dying, their very large and thick stipes bend down abruptly at a few inches above their junction with the trunk, but not so as to bring the withered fronds near to the plant.

**II. HYMENOPHYLLUM.**

*Hymenophyllum erecto-alatum*,<sup>369</sup> sp. nov.

*Plant* terrestrial, sarmentose; *rhizome* glabrous; *roots* and *rootlets* densely villous with long dark-brown hairs.

*Frond* membranous, bright grass-green colour, 3–4 inches long, 2–3 inches broad, mostly decurved or bent, somewhat ovate, tripennatifid; *main rachis*, and also *secondary rachises* winged throughout; *wings* very much crisped and narrowly undulated and vertical, situated nearer to the upper surface and so giving a sulcated appearance.

*Stipes* distant from each other on rhizome, cylindrical, stout, woody, wiry, irregular, bent and curved, 4–5 inches long, always longer than the frond, light coloured, slightly winged above, wings decreasing gradually downwards for 1–2 in.

*Segments* pinnatifid; *lobes* narrow, very close together, obtuse and entire.

*Involucres* on lateral segments, rather large, sub-orbicular, open, free, lips toothed; *sori* semi-exserted and coloured red.

This fern is naturally allied to *H. demissum* (although that is a very much larger species), but in several respects it differs from it,—not even belonging to the same (artificial) section; of which Sir J. Hooker says:—“*Frond pinnate* below, *stipes not winged*, *rachis winged above only*.” (Handbook). In all which characters our fern widely differs; also, in its smaller size, colour, closeness of segments, involucres, clusters of sori, etc., etc. The peculiarity of its being almost vertically

368 *Cyathea medullaris* (G. Forst.) Sw.

369 Possibly *Hymenophyllum demissum* (G. Forst.) Sw.

winged gives it a striking appearance, which, together with the bright light-green of its frond, and the red colour of its large clusters of prominent sori, catches the eye at first sight, in its fresh state. Fruitful fronds, however, are rather scarce.

*Hab:* Growing diffusely among roots of trees in dry forests near Norsewood (Forty-mile Bush), Hawke Bay, 1876; and again, 1878.

**1878 Report of the Inspector of Schools  
to the Chairman of the Education  
Board, Hawke's Bay. Appendix to the  
Journals of the House of Representatives; H.1: 62-64.**

HAWKE'S BAY.

SIR,—

Napier, 30th June, 1877.

I have the honor to submit the report of the schools of this provincial district, both common and denominational, receiving Government aid, for the year ending June 30, 1877.

NUMBER OF SCHOOLS AND TEACHERS.

The total number of schools at present in active operation is 27—viz., 2 boys', 2 girls', and 23 mixed. Of these, 6 are in the town of Napier (viz., 2 boys', 2 girls', and 2 mixed), and 21 in the country all mixed.

One new common school has been opened during the year at Ashley-Clinton, on the west side of the Ruataniwha Plains.

Four teachers resigned their situations during the year; one only being the teacher of a common school, at Meanee; and three being teachers of three several denominational schools—the United Methodist at Napier, the Roman Catholic at Central Meanee, and the Church of England at Taradale. The vacancies, however, were all quickly and well filled, so that those schools were each only for a very short time closed, and have been all benefited by the change of teachers.

Those 27 schools are conducted by 27 paid teachers, who are also, in several of the larger schools, assisted by other teachers both male and female. In a few of the schools which are under female teachers they are ably assisted by their husbands. I would, however, that all the assistant female teachers were generally better qualified for their office than they are. Indeed, should no Education Act be passed by the General Assembly at this approaching session, I shall consider it to be my duty to bring before the Education Board the absolute necessity of not allowing of any assistant teacher being appointed by the teacher of any school without due examination and approval.

SCHOOLHOUSES AND TEACHERS' RESIDENCES.

The schoolhouses and teachers' residences are, generally, in good condition; but most of the schoolhouses both in town and country (although some have been during the year enlarged and improved by the addition of chimneys) are much too small for the number of scholars. Others still want chimneys; a few, never having been lined, need lining sadly; while some require painting, to preserve the woodwork; and

some greatly need curtains for the large windows to keep out the fierce glare of the sun on clear days. The gardens, too—or, rather, the space about the teacher's house which should have been made into a decent and tidy (if not a model) garden—would become all the better for a little attention and improvement; so, also, the pathways and frontages to the schoolhouses, which, being worn, are in wet weather extensive pools and watercourses.

New schoolhouses, much required, are being erected at Woodville and at Wainui; while others (also greatly wanted) are talked of for Wallingford, West Tukituki (west side of the Ruataniwha Plains), Te Aute, and Mohaka. From a petition recently sent to me by some residents at Te Aute (and by me forwarded to the Education Board), it appears that there are 72 children in that one locality available for school.

And here I would suggest, for the information of the Board,—1. That, in all future building of schoolhouses, the plan of the building shall be first submitted to the Inspector, or to some one well acquainted with what is absolutely required, as by so doing much more suitable houses would be built, and, possibly, a great saving effected. 2. That, while the said schoolhouses may be used in country places as heretofore for divine worship on Sundays, nothing whatever be fixed or placed within the same for such purposes. 3. That, in the future enlargement of those of the present country schoolhouses which contain large ugly incommodious embarrassing rostrums (of great disadvantage to the working of the school), it be a first instruction to remove out of the schoolhouse those incommodious structures, before that any money for enlargement, &c, be granted.

SCHOOL ATTENDANCE AND STATE OF THE SCHOLARS.

Tables, showing the total number of scholars on the books, their attendance at the different schools, and an abstract of their ages, together with a condensed tabular view of the branches of education taught, and the number of scholars of both sexes learning such branches, will be given with this report. The total number of scholars on the books is—Boys, 838; girls, 649: total, 1,487. The total average attendance is 1,202, being 45 in excess of the average number of last year. Here, however, I should observe that the average attendance at several of our country schools is much less now than it was during the last quarter, owing to so many of our old settlers having removed to Woodville and other new places, taking their children, who were at school, with them. In addition to the foregoing there are also several private schools for both sexes in town and country (some of which are newly opened), which are well attended.

READING, WRITING, AND ARITHMETIC.

These primary studies are fairly followed by the scholars in nearly all the schools, and improvement and good progress has been generally made. Yet, in a few, where such advance is not so marked, it is partly the fault of the teacher, and partly that of the parents, who, too often, keep their children at home.

In a few of the country schools a bad unnatural tone is common in reading; while in a few others a most remarkable and peculiar emphasis is laid upon the last word of a sentence, which sounds ludicrous. I have striven zealously against all such peculiarities, and I hope not wholly in vain. I have been pleased in observing that a marked improvement in most of the schools has taken place

during the year in writing, both in the form and manner of writing, as well as in its correctness from dictation. It is highly gratifying to notice how rapidly and correctly many of the boys and girls generally perform their arithmetic, a fair proportion of which is done also in the higher rules.

#### OTHER STUDIES.

Geography and use of the maps, grammar, British history, English composition, book-keeping, geometry, algebra, drawing and mapping, and also sewing and needlework, plain and ornamental, are all more or less taught, the first five in nearly all the schools. A large number of the scholars are now well acquainted with geography and the maps; and not a few have a very fair knowledge of grammar. Geometry, book-keeping, drawing, and mapping are taught in the town boys' schools; and algebra and Latin are also among the duties of the senior class in the Napier Boys' Trust School. English composition, in short essays on simple subjects and in letters, is now generally attended to by the older scholars in the larger schools. The art of sewing and needlework, both plain and ornamental, is also commonly taught in the afternoons to the girls.

#### OF ORDER IN SCHOOL, USE OF THE BLACK-BOARD, PROPER PLACE FOR WALL MAPS, AND EMPLOYMENT OF THE JUNIOR CLASS.

I should scarcely be performing my duty if I did not once more (as I did a few years ago) prominently bring these matters to notice, in hopes of our teachers and their schools profiting thereby. In two or three of our schools there is still a sad want of order and quietness in the school; the scholars seem to have been allowed to do pretty much as they pleased, while the noise when all are learning (?) their lessons together (often repeating them at the very top of their voices) is discordant and stunning; while a little more order in their manner of leaving the school would not be wholly unserviceable. Again, the benefit of allowing the poor little junior class to sit for hours during the day unemployed— save when, for a brief time, engaged in reading their short lesson—is to me beyond comprehension. I have repeatedly pointed out how those little ones should be profitably employed, as, indeed, they are in a very large majority of our schools. In a few of our schools (and, I am happy to say, but a very few), that valuable auxiliary the black-board is too often consigned to a corner, instead of being daily and constantly in use, to the steady advantage of the scholars, and to the lessening the labours of the teacher; while the large and useful wall maps also are, in a few cases, removed from their proper place on the walls and shoved into a corner.

#### INSPECTION.

During the year I have visited all the Government-aided schools in the provincial district twice or oftener, save that at the Wairoa. More days have been occupied this year in travelling and in inspecting schools than in any former one.

I have been led to make the several general remarks I have on what I cannot but deem wanting and even reprovable in a few of our schools, in, I trust, a kindly spirit; for I should be very sorry if hereafter it should be remarked that I had overlooked all such matters.

#### OF SCHOOL PRIZES.

Under this head I would just observe that I am sure both scholars and teachers are thankful to the late Provincial Council of Hawke's Bay for its liberal grant of a few

pounds for this purpose, which has been advantageously used. Not a small amount of diligence and improvement on the part of the scholars is to be fairly ascribed to this, and I sincerely hope the Education Board will be pleased to afford a similar grant.

#### CONCLUSION.

It will be seen from the tables that an increase to nearly all the schools has been made during the year, notwithstanding several of the elder scholars, both male and female, who were at many if not all of the schools at the commencement of the year, have left school to enter on active life.

In nearly all the schools there is much greater activity and diligence exhibited among the scholars in applying themselves to learning than there was formerly, and where such is not the case (which is, however, rare) it is mainly the fault of the parents, or teachers, or both. Indeed, my conviction is, as I stated four years ago in my report, that "the scholars are, on the whole, far in advance of a similar number of children in the Old Country, taken promiscuously, in capacity and in desire of learning."

During the year a few poor children of both sexes have been admitted into some of the town and country schools free, on an Inspector's order, but in no case without previous strict inquiry as to the ability of their parents, &c.

Notwithstanding, I regret to say, there are still several children in the neighbourhood of schools, both in town and country, who are growing up without scholastic education mainly owing to the thoughtlessness of their parents.

I have already mentioned the great irregularity of attendance on the part of the scholars, which is, I believe, in nineteen cases out of twenty, not the fault of the scholar but of the parents, who not only keep the child at home for trifling matters, but also, not unfrequently in country places, just to save a few pence; as, for instance, when it rains on a Monday, then the child is almost sure to be kept at home for the remainder of that week, because the parents will not pay the week's charge, small though it be, for a single day short of the full week; and so the poor child suffers.

For my own part —now that the provincial system of government has been abolished—I heartily wish that the Colonial Government will, at this approaching session, pass an Act containing a suitable comprehensive plan of general education: one by which education shall be open for all alike, both guaranteed and civil, or, in other words, liberal, compulsory, and secular (by secular I mean religious in the truest sense of the word, and at the same time wholly unsectarian). By such a system a better class of teachers, on the whole, will be obtained, who also will be better and more regularly paid; and at the same time a far better and more constant attendance of the children at school will be secured, whose progress will consequently be more steady and marked, to the ultimate satisfaction of all concerned—the parents and the children, the teachers, the Inspector, and the State. For I am more and more convinced, as I said in my report last year, that "such a system once well begun—in good and ample schoolhouses and with first-class trained teachers—would soon become established, grow more and more necessary and natural, and be heartily welcomed, and yield in due season an abundant crop of fruit."

But, while I thus speak of trained teachers, I must be clearly understood to mean that a trained teacher, as such, is only the more valuable to his school and to the public when he has also the especial natural qualifications of a teacher in

him, which no mere training can possibly impart; otherwise the untrained though educated man, possessing the aptness, the mind, and the heart which enable him to love his work in its entirety, and which peculiarly fit him for the office of teaching, will prove the better qualified and more useful man: such an one will be sure to gain the hearts of his pupils, and the corresponding advantages will be great and solid, and, though not so showy, will be seen and approved.

I have, &c.,

WILLIAM COLENSO,

Inspector of Schools.

The Chairman of the Education Board, Hawke's Bay.

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**1878 Petition of William Colenso.** *Presented to the House of Representatives, 24<sup>th</sup> September, 1878, and ordered to be printed.*

To the Honorable the House of Representatives in Parliament assembled.

THE HUMBLE PETITION OF WILLIAM COLENSO, OF NAPIER RESPECTFULLY SHOWETH,—

THAT your petitioner was for several years, until lately, the Government Inspector of Schools for this provincial district. That, from the formation of the Province of Hawke's Bay, in 1858, to 1st May, 1878, your petitioner has continuously held several important public offices—viz., Provincial Auditor, Provincial Maori Interpreter, Provincial Treasurer (without clerk), and (twice) Provincial inspector of Schools. That he, the second time, accepted the office of Provincial Inspector of Schools in 1872, and held the same until 1st May, 1878.

That for the first four years the salary was only £100, and for the last two (complete) years £150 per annum, although the visiting the distant country schools, through want of roads, was both difficult and dangerous.

That during the whole of this time all the clerical work usually pertaining to an Education Board and Secretary (there being no Education Board in Hawke's Bay) was performed by your petitioner, even to the calculating and making out of the teachers' quarterly vouchers, which duty was here particularly heavy, as all the teachers were paid by a capitation allowance, to be calculated on the daily average attendance.

That early in 1876 (after seeing the Commissioners—the Hon. Mr. Gisborne, Mr. Seed, and Mr. Knowles—appointed by your honorable House to visit the provinces, and to see the provincial officers) your petitioner wished to resign his office and to retire on some fair allowance, but was persuaded by the Superintendent and by the principal settlers to remain in office "for the benefit of the children of the district."

That at the end of the year 1876 he, conditionally, resigned his office, unless the Education Board (then very recently appointed) would largely increase his salary, as the many heavy duties he had to perform took up the whole of his time.

That your petitioner received two pressing official replies from the Education Board to withdraw his resignation. A correct copy of one of them is here given:—

"Napier, 8th February, 1877.  
DEAR SIR,—I have laid your letter before the Board, and they, in common with myself, regret very much that you should resign.

"It is not the amount of the salary that is worth your while to stay for; but you are appealed to on other grounds—that you are eminently fitted for the post, and that you have given satisfaction to every one concerned; that the Board cannot afford to give more at present, and appeal to your public and patriotic feelings to further, as far as in your power lies, the education of the youth of this district.

"The Board, therefore, beg you to reconsider the whole question, and continue your services for another year.—I have, &c.,

JOSEPH RHODES,

"Chairman, Education Board.

"To the Inspector of Schools."

That, consequently, your petitioner consented to remain in office for another year.

That in February, 1878, he reminded the Education Board of his having only consented to continue to hold office at that low salary for the year 1877, which was expired.

That then the Education Board raised his salary to £300 per annum, to commence, however, from the 1st of March, 1878.

That very soon after (early in that same month of March) your petitioner found the Education Board had adopted the peculiar opinion that they could not interfere with the appointments of teachers made by country School Committees; of such, three, at least, had then just been made, and that, too, directly against a late official letter from your petitioner to the Education Board on this subject. That this very opinion of your petitioner (as by him officially communicated to the Hawke's Bay Education Board, and by them disallowed) has since been shown to be the correct one by the Hon the Attorney-General.

That your petitioner, finding such to be the opinion of the Education Board, and fearing a collision ere long, resigned his office, to take place at the end of the current quarter, March.

That the Education Board accepted the same, but requested your petitioner to continue in office until the 30th of April—the newly-elected Board entering on their duties on the 1st of May.

That your petitioner again consented to do so.

That during that month of April, while busily employed in visiting the country schools, your petitioner was so greatly beset by parents of scholars, Magistrates, old settlers, teachers of schools, and children (pupils), to apply to the Education Board for the office of Inspector (which was then thrown open by advertisement to applicants), that he was induced to do so, and did so; having also been assured by members of both the old (or first) Education Board (which was still acting), and also of the new Education Board (then recently elected), that, if he would but do so, his offer would be gladly accepted. Further, the knowledge of his being about to do so kept back several private friends (eminently fit and proper persons) from applying for the said office.

That the new Education Board (or those of them who happened to be present), immediately on their sitting, appointed the present Inspector of Schools to the office (a gentleman then resident at Christchurch) at a salary of £450, with largely-increased travelling allowances, and also a Secretary at £150 per annum.

That at the same time the Education Board unanimously passed and recorded a resolution speaking most favourably

of your petitioner, and at the same time sent him the following letter:—

"Hawke's Bay Education Board, Napier, 21st May, 1878.  
 "SIR,—I have the honor to convey to you, on behalf of the Hawke's Bay Education Board, its sense of the very valuable services rendered by you to the cause of education in this district during the time you held the position of Inspector of Schools, which you have just resigned. In carrying out the wish of the Board, in expressing regret at your retirement, I am glad personally to have the opportunity of thanking you for the cordial and zealous manner in which the difficult duties attached to the position of Inspector were carried out by you during the years you acted in that capacity under the late Provincial Government at the time I was Superintendent. I but do justice to the services you have rendered when I state my conviction that the efficiency of the schools is largely owing to the conscientious and earnest manner in which you discharged the duties of your office. Regretting the loss of your services,—I have, &c.,                            "J. D. ORMOND,  
 "Chairman, Education Board of Hawke's Bay.  
 "To William Colenso, Esq., Napier."

That, under all those circumstances (herein very briefly expressed), your petitioner believes that he has a very fair claim to lay before your honorable House for some compensation, either under the head of loss of office (as hitherto commonly allowed by the Colonial Government to all Provincial Government officers on the abolition of provinces), or under that of retirement from active public service through age.

Your humble petitioner further respectfully sheweth,—That, from the time of his arriving in New Zealand in 1834, down to (at least) the formation of this Province of Hawke's Bay in 1858, a period of twenty-five years, your petitioner had ever been an assiduous and ready public helper of all the several British constituted authorities in New Zealand and of the Colonial Governments; which many letters of thanks for such services amply show, particularly from the British Resident, Mr. Busby; from the New South Wales Land Commissioners, Sir M. Richmond and Colonel Godfrey; from the first Governor, Captain Hobson; from Mr. Willoughby Shortland; from Sir M. Richmond, while Superintendent of the southern part of the colony; from Lieutenant-Governor Eyre; from Mr. Domett, Colonial Secretary; from Dr. Featherston, while Superintendent of Wellington; from Colonel Wyatt, commanding the 65th Regiment, while stationed here at Napier; from Mr. (afterwards Sir Donald) McLean; from Mr. Domett, the first Resident Magistrate here at Napier, 1854–56; also from many of our early settlers for help afforded them on peculiarly trying occasions between them and the Maoris (two in particular, not wholly unknown to some of the members of your honorable House, in which my own life was in jeopardy owing to my interference—I may be allowed to mention that of Mr. Barton, at the White Rocks, in 1845, and that of Mr. Guthrie, at Castlepoint, a few years later); for all of which help and aid, including the heavy manual labour in compositing and printing the Treaty of Waitangi, and all the first Proclamations, notices, and forms, and also the first Gazette, for the Colonial Government under Governor Hobson (all which it may be further stated—if only as a curiosity—were composited

from types placed on tables and on the floor! through my not having any printers' type-cases made for the letters of the English alphabet); for all of which assistance your petitioner never received the slightest remuneration. Lastly, that your petitioner, having once had the honor of a seat in your honorable Assembly, and that for five successive years (during the trying times of the war.—1861–65), and therefore practically knowing something of its high and equitable character, believes that your honorable House will be pleased to take these various matters, herein briefly advanced or mentioned, into its consideration, and grant to him, as an old and early pioneer in New Zealand (now nearing the "allotted, threescore years and ten"), that compensation which, under all the circumstances, your honorable House may deem equitable.

And your petitioner will ever pray.

WILLIAM COLENSO.

### 1879 On the Moa.

*Transactions of the New Zealand Institute 12: 63–108.*

[Read before the Hawke's Bay Philosophical Institute, 10th June, 1878, and 13th October, 1879.]

For some time past I have been thinking of bringing this interesting subject before you, and that for several reasons.

1. Because this animal is purely a New Zealand one, and not only so, but it is, I think I may safely say, to be classed among the animal wonders of the world.
2. Because here in Hawke's Bay (Napier) but little is known of it—nothing indeed when compared with Christchurch, Wellington, and other towns, where also fine specimens of its entire skeleton may be seen in the Museums.<sup>370</sup> I believe that I may fairly infer, that not a few of you present have not yet heard any account of it—never yet seen any of its bones, save these which I now lay before you,<sup>371</sup> much less an entire mounted skeleton, such as are in

370 WC: Here in Hawke's Bay, during the whole term of my residence (over 35 years), but very few bones of the Moa have been found, and those singly, scattered, and broken. Nevertheless, on one occasion, about twenty years ago, the men at work on the Middle Road (between Havelock and the entrance to the Kaokaoroa Valley), in making a cutting in the side of a hill, found, either the whole skeleton of a large Moa, or the bones of several all together, deeply embedded among or under the limestone. I did not hear of it until some time after, and, on my visiting the spot, I found that the whole of the bones had been smashed up and mixed with the clay and limestone from the cutting where they were found; in fact many of them fell to pieces on being exposed to the sun and air. I obtained, however, a few small pieces of the shank of a tibia and of a tarsus, which were of remarkable thickness, I think the thickest by far that I had ever seen. They had been partly converted into a kind of lime, and were wholly as white as the impure limestone in which they were found, and scarcely at first sight distinguishable from it. A few years ago a fine specimen of a tibia, in fair preservation, measuring two feet eight inches, was found near Patangata: this I now have.

371 WC: These were, a pair each of Femora, Tibiae, and Tarsi, all from one Moa, found in situ, with other bones, at Poverty Bay, about thirty years ago. The tibiae measure two feet five inches each, and the whole are in excellent preservation.

those photographs, now on the table, procured from Christchurch. [64]

3. Because I diligently sought after it, and wrote very early about it, before New Zealand became a colony, in 1838–1842; and yet, though that early paper had been *twice* published, both in Tasmania and in England, I do not think there is a single copy in the Colony save my own. Indeed, I have failed to procure one at any price in London.

4. Because that early-written paper on the *Moa* has been frequently referred to and quoted in many scientific works published in Europe and America, as well as by Dr. Von Haast in the volumes of the “Transactions of the New Zealand Institute” in our Library.

5. Because I have been subsequently repeatedly written to, appealed to, and importuned, both from Europe and within the Colony, respecting what I had published, and also asked to add to what I first made known about it.

6. Because I have, during the past few years, been again seeking from every possible source to gather up anything that was left concerning the *Moa*.

Those are among the chief reasons which incline me now to bring this subject before you. I think you will agree with me as to their validity.

I propose, therefore, to divide my paper into two parts—1. What I originally wrote on the *Moa* (which being wholly unknown to you will be new); and 2. To bring before you all additional information which I have subsequently gleaned respecting it.

#### PART I.—What I originally wrote on the *Moa*.

“An Account of some enormous Fossil Bones of an unknown Species of the Class Aves, lately discovered in New Zealand.”<sup>372</sup>

During the summer of 1838, I accompanied the Rev. W. Williams on a visit to the tribes inhabiting the East Cape district. Whilst at Waiapu (a thickly inhabited locality about twenty miles S.W. from the East Cape), I heard from the natives of a certain monstrous animal; while some said it was a bird, and others “a person,” all agreed that it was called a *Moa*; that in general appearance it somewhat resembled an immense domestic cock, with the difference, however, of its having a “face like a man,” that it dwelt in a cavern in the precipitous side of a mountain; that it lived on air; and that it was attended or guarded by two immense *Tuataras*,<sup>373</sup> who, Argus-like, kept incessant watch while the *Moa* slept; also, that if any one ventured to approach the dwelling of this wonderful creature, he would be invariably trampled on and killed by it. [65]

A mountain named Whakapunake, at least eighty miles distant in a southerly direction, was spoken of as the residence of this creature; here, however, only one existed, which, it was generally contended, was the sole survivor of

the *Moa* race. Yet they could not assign any possible reason why it should have become all but extinct.

While, however, the existence of the *Moa* was universally believed (in fact, to dare to doubt of such a being amounted, in the native estimation, to a very high crime), no one person could be found who could positively testify to his having had ocular demonstration of it; for while with every one it was a matter of the profoundest credence, that belief only rested on the bare and unsupported assertion of others. Many of the natives, however, had from time to time seen very large bones; larger, from their account, than those of an ox; these bones they cut up into small pieces for the purpose of fastening to their fish-hooks as a lure instead of the *Haliotis*<sup>374</sup> shell, it answering that purpose much better, from its going more equably through the water.

It was almost ludicrous, whilst at the same time it showed the powerful effect which this belief of theirs had over them, to witness their unconcealed fear, almost amounting to horror, on requesting them to go to the residence of the *Moa* to procure it, or to act as our guides thither for that purpose. Unlike, too, what has been very frequently observed in savage nations, this fear seemed not to arise from any degree of superstitious dread, but merely from an abiding conviction of the physical powers of this prodigious animal; as well as from their belief of the moral certainty of such powers being put into immediate action if they dared to intrude within the precincts of this creature’s resort.

As a matter of course, I treated the whole story (so far as related to the present existence of such an animal) as fabulous; looking on it as one more of those many peculiar tales and legends which so abounded in the “olden time,” and which every nation under heaven invariably possesses. I could not but think, however, what an excellent companion for the celebrated *Roc*<sup>375</sup> of oriental story and nursery fairy-tale it would have made, had it but been known a little earlier: for, however some few grown-up persons may still delight in reading such marvellous exploits, parents generally, I think, have come to the wise conclusion to prohibit their introduction to the rising generation.

On our return to the Bay of Islands, several natives from the East Cape district accompanied us. From them I subsequently received pretty nearly the same details concerning the *Moa*, as I had given me before when in that neighbourhood. [66]

In the following year, 1839, the Rev. W. Williams again visited that district, accompanied by the Rev. R. Taylor. The non-arrival of the vessel by which these gentlemen were to return to the Bay of Islands, which caused them a fortnight’s detention at the East Cape, afforded them much more leisure time than I had when there. Mr. Taylor, hearing of this *Moa*, prosecuted his enquiries, and was subsequently rewarded with the discovery of (what appeared to be) a part of a fossil *toe* (or rather claw) of some gigantic bird of former days.

In the summer of 1841–2, I again visited those parts. At Waiapu I gained the information, that Whakapunake (the mountain where the *Moa* was said to reside) had been visited by some baptized natives, purposely to ascertain the truth of the common belief; and which they declared to be altogether without foundation; finding neither cavern, nor

372 WC: My first paper was written early in 1842, and published with two plates of bones of the *Moa* in the “Tasmanian Journal of Natural Science,” Vol. II., part 7: this was subsequently republished in England, by Professor Owen, in the “Annals and Magazine of Natural History,” Vol. XIV., p. 81, with the above title.

373 WC: See Note A, Appendix I.

374 WC: See Note B, Appendix I.

375 WC: See Note C, Appendix I.

lizard-guards, nor *Moa*, nor any signs of such uncommon *lusus naturae*.<sup>376</sup> But what was of far greater interest to me than this relation of theirs, were some bones which I had the good fortune to procure from them, and which were declared by the natives to be true *Moa* bones. These bones, seven in number, were all imperfect, and comprised five *femora*, one *tibia*, and one which I have not yet been able satisfactorily to determine. The largest *femur*, consisting of the diaphysis only without the processes, measured eight inches in length, and four and three-quarter inches in girth in the narrowest part. The portion of the *tibia* (which, like the *femur*, consisted only of the middle part), measured in length six inches, and in circumference four inches at the narrowest, and five inches at the widest part. The still remaining bone, the largest of all, which was merely a section, measured in length six inches, and in circumference seven and a quarter inches in the smallest part. These bones were all (excepting the last mentioned) of a very dark colour, almost a ferruginous brown, and appeared to have entirely lost their oily matter. They were very stout, especially the *tibia*, and were strongly marked and indented on the outside with muscular impressions. Within, what little remained of the reticulated cells appeared to be nearly perfect. They were all found by the natives in the Waiapu river, and were collected by them for the purpose of cutting-up and attaching to their fish-hooks, in order to fish. The portion of *tibia* which I obtained had been sawn across by the native in whose possession it was, for that purpose. I also obtained several hooks, each having portions of the bones of the *Moa* attached to it. I could not, however, ascertain, from the smallness of the slips, whether these had been originally cut out of such bones as those I had just procured, or whether they had not been sawn from bone of a different description and larger size. [67]

Leaving Waiapu, and proceeding on by the coast towards the south, I arrived at Poverty Bay, where the Rev. W. Williams resided. This gentleman had had the good fortune to procure a nearly whole *tibia* of an immense bird, without, however, the entire processes of either end. This bone measured about eighteen inches in length, and was proportionably thick. Mr. Williams wishing to send this unique relic to Oxford, I left a pair of *femora* to accompany it, in order, if possible, to obtain from that seat of learning some light on these increasingly interesting remains. At Poverty Bay I made several enquiries after *Moa* bones, but to little purpose, as I could not obtain any.

Quitting Poverty Bay, and still travelling in a southerly direction, I soon came within sight of Whakapunake, the mountain celebrated as the residence of the only surviving *Moa*. As natives lived about its base, among whom my route lay, I looked forward with no small degree of interest to the chance of obtaining some relics of the *Moa* in this locality; in this, however, I was disappointed. At the close of the second day's travel we arrived at Te Reinga (a village situated at the foot of the mountain), where, as opportunity offered, I enquired of the natives relative to the *Moa*. They, in reply to my reiterated queries, said that he lived there in the mountain, although they had never seen him; still the *Moa* bones were very commonly seen after floods occasioned by heavy rains, when they would be washed up on the banks of gravel in the sides of the rivers and exposed to their view; at this time, however, they had not any by them. I offered large rewards for any that should be found

hereafter, and which were to be taken to Mr. Williams, at Poverty Bay. Here, as at Waiapu, no one person could be found who possessed the hardihood positively to assert that he had seen this *Moa*, although this neighbourhood had ever been the dwelling-place of this tribe. The mountain, too, it appeared was by no means unknown to them; for, during a war between themselves and the Urewera tribe a few years ago, they had fled for refuge to their stronghold on the top of Whakapunake, where they had lived for some time, and where many of their relatives eventually fell into the hands of the enemy, who starved them into a surrender and took the place. Here, then, was still further proof, if proof were wanting, that no such colossal animal could possibly at this time be *existing* in this place. The spot, however, was well chosen for the fiction of such a creature's residence: a huge, table-topped and lofty mountain, covered with primæval forests of gloomy pines; its brow singularly adorned with a horizontal stratum of whitish sandstone, which ran continuously and precipitously for more than two miles. At the base of the mountain ran the river Whangaroa, down which we paddled in canoes for some distance. This river is a branch of the Wairoa river, which disembogues into Hawke's Bay. [68]

These natives further informed me that a *Moa* resided in a certain high mountain in Te Whaiti district, nearly five days' journey into the interior, in a N.W. direction from the place where we now were, and that *there* I should find people who had actually seen the animal. If I was little inclined to believe in the story of its existence before, I was much less inclined to do so now; however, as my route lay that way, I noticed this information among my memoranda, determining to make every possible enquiry after it.

Fifteen days after this I arrived at Te Whaiti, the principal village of that district, and not far from the residence of the second *Moa*. Here, however, as before, the people had never seen a *Moa*, although they had always heard of, and invariably believed in, the existence of such a creature at that place. They, too, had not any bones in their possession; though such, they said, were very commonly seen after heavy floods. The following day I passed close by the mountain where this *Moa* had resided for so many years, but noticed nothing more than usual (although I availed myself to the utmost of the use of my pocket telescope), save that this part of the country had a much more barren and desolate appearance than any I had hitherto witnessed.

I returned in the autumn to the Bay of Islands, without gleanling any further information relative to the *Moa*.

It should, however, appear (from information which I have recently received from the Rev. W. Williams), that, very shortly after my leaving Poverty Bay, a *Moa* bone was brought him by a native, which he immediately purchased. The natives in the neighbourhood hearing of a price being given for such an article as a bone, which they had ever considered as of little worth, were stimulated to exertion, and a great number, perhaps more than a hundred persons, were soon engaged in the field, actively searching, after *Moa* bones; the result was that Mr. Williams soon had the pleasure of receiving a large quantity of fossil bones, some of which were of an enormous size, and in a good state of preservation. The bones, though numerous, were not in any great variety, chiefly comprising such as I have already mentioned, i.e., those of the *femur* and *tibia*, together with those of the *tarsus*, the lower part of the *dorsal vertebrae*, and a portion of the *pelvis*. Altogether the bones of nearly thirty birds, apparently of one species only, must have been

<sup>376</sup> *Lusus naturae*: jokes of nature.

brought to Mr. Williams. From the great difference in the sizes of some of them when compared with each other, Mr. Williams came to the conclusion that the animal to which they once belonged must have been very long-lived. Whilst, however, I do not perceive how far this inference is to be correctly deduced from the mere difference in the size of the bones, we know that longevity is common to very many of the feathered [69] race, particularly to those of the larger kinds. One of the bones, a *tibia*,<sup>377</sup> measured two feet ten inches in length, and was proportionably thick. Two others measured, each, two feet six inches in length. Another, a section of a *femur*, measured eight inches in circumference in the smallest part. On putting together the bones of the leg and thigh (although none of them exactly fitted), and making the necessary allowance for the portions deficient of the processes of the joints, the intermediate cartilages, and lower tendons and integuments of the foot, we obtain, at least, six feet of the lower extremities of a bird; which, supposing its upper parts to accord in size with the lower ones, must have measured in altitude when alive, at the lowest rate of calculation, from fourteen to sixteen feet—an enormous feathered monster, well worthy, from its gigantic size, of being classed with the *Megalosaurus* of Buckland and the *Mastodon* of Cuvier.

It so happened that about this time a mechanic, who had been living at Cloudy Bay, in the Middle Island, came to reside at Poverty Bay. He stated that this bird now existed in the high hills near Cloudy Bay; and that two Americans, residents at that place, hearing from a native that such a bird lived on the mountainous and snowy heights, provided themselves with arms, and, thus equipped, went in high expectation of shooting one, taking the native with them as their guide. They ascended the mountain to the place where these birds resort, where, at the native's request, they hid themselves behind some bushes. Presently they saw the monster majestically stalking down in search of food; they were, however, so petrified with horror at the sight as to be utterly unable to fire on him. Had they commenced the combat, it is, I think, highly doubtful how it might have terminated. I think it very probable that they would have found themselves in a much worse situation than the Trojan chief and his followers did in their celebrated conflict with the harpies; so energetically and deploringly described by the poet in these lines:—

"Ergò, ubi delapsæ sonitum per curva dedere  
Littora; dat signum speculâ Misenus ab altâ  
ære cavo: invadunt socii, et nova prælia tentant,  
Obscœnas pelagi ferro fadere volucres.  
Sed neque vim plumis ullam, nec vulnera tergo  
Accipiunt."<sup>378</sup> —ÆN. lib. iii., 238. [70]

To return;—they observed him for near an hour, ere he retired, and were glad enough at last to make their escape

377 WC: This has been sent by Mr. Williams, with several others, to Professor Buckland.

378 WC: For the benefit of the English reader, I give Dryden's translation of the passage from the celebrated Latin poet:—

"Then when along the crooked shore we hear  
Their clatt'ring wings, and saw the foes appear,  
Misenus sounds a charge: we take th' alarm,  
And our strong hands with swords and bucklers arm.  
In this new kind of combat, all employ  
Their utmost force the monsters to destroy.—  
In vain:—the fated skin is proof to wounds;  
And from their plumes the shining sword rebounds."

—Book iii., 311.

from witnessing a meal, where, like him of old, instead of eating, they were all but eaten! They described this animal as being about fourteen or sixteen feet in height.

The bones from which the annexed drawings<sup>379</sup> [*Pl. IV.* and *V.*] were made, were all found at Turanga, Poverty Bay. They comprise a *tibia*, a *femur*, a *tarsus*, and a fragment of a *pelvis* and *dorsal vertebrae* of a *Moa*. They are very stout, are deeply marked with muscular impressions, and are in a good state of preservation. 1. The *tibia*, which is nearly perfect, measures thirty inches in length, and in girth, at the largest end (where it was much broken away at the edges of the processes, and consequently reduced in size), sixteen and a half inches; at the smallest end twelve and a half inches, and in the smallest part, near the middle of the bone, five and a quarter inches. There are not any remains of a *fibula*, however rudimentary, attached to the *tibia*, nor is there any apparent mark of attachment to indicate that such formerly adhered thereto. The largest *tibia* yet found, in nearly a perfect state, measured four inches more in length than this.<sup>380</sup> 2. The *femur*, which also is nearly perfect, measures in length thirteen inches; in girth, at the one end over the head of the *femur*, eleven and a quarter inches; at the thickest end twelve and a half inches; and in the smallest part five and a half inches: the reticulated muscular impressions on this bone are very numerous and well defined. I have seen a portion of a *femur*, the small part of which measured in girth eight inches. The one, however, from which the drawing was taken, though not so large, was more perfect; and it was in consequence of its being so that it was selected for the purpose. 3. The *tarsus* (a small one), nearly perfect, measures in length ten inches, and in girth at one end nine inches, and at the opposite end eight inches, and in the smallest part four inches; this bone is comparatively very short and flat, and has articulations for only three toes. 4. The portion of the *bone of the back and pelvis* is not so perfect, being a very much-broken fragment, comprising from the upper and outer edge of the *acetabulum* to the lower joint of the *dorsal vertebrae*, in which the canal for the *medulla spinalis* is perfect. This bone, or rather fragment, measures, from the outer edge of the articulation of the head of the *os femoris* to the outer broken edge of the bone (which is that portion approaching towards the upper part of the bone of the *pelvis*), eleven inches; and across the inner and smallest part of the bone, immediately beneath the [71] last of the *dorsal vertebrae*, where it was most perfect, seven inches. A correct idea cannot, however, be given of such a fragment as this, through the medium of a written description. This bone evidently differs very considerably from such bones in other birds, in its peculiar carinated shape in that portion of it which must have formed the highest part of the lumbar region; it must have been also considerably larger when entire, as the whole of the upper ridge is much broken. This bone is, also, very deeply indented with muscular impressions.

Having thus given, it is to be feared, rather a tedious detail of the *Moa*, and of the bones hitherto found, little remains at

379 WC: Drawings of these bones were sent to the Tasmanian Society, and published with the original monograph in their Journal.

380 WC: I much regret that I had not an opportunity of inspecting the largest and most perfect bones ere they were sent to England. A vessel sailing from Turanga for Port Nicholson, by which opportunity they were sent, was the reason of my not seeing them.

present than deferentially to offer a few remarks on the bones in question, and these suggestions may be noticed under two general heads: Firstly, does the *Moa* now exist, or, at what period of time is it probable that it existed? Secondly, to what order or family can we reasonably suppose the *Moa* to belong?

It is very true that at this time we have but little to assist us in our search; nevertheless, let us commence and prosecute our enquiry, considering such aids as may present themselves to our notice in the course of our investigation at all bearing on the subject before us.

Our first enquiry, then, will be, Does the *Moa* now exist, or, at what period of time is it probable that it did exist? To the first of these queries I reply, that it is my opinion that the species whose bones we have now before us does no longer exist, at least in New Zealand. A few reasons for this opinion of mine I will here adduce.

From my knowledge of the New Zealander, I can but believe that there is no part of his native land which has not been at one time or other trod by him, however mountainous or dreary it may be. As a proof of this, I might mention their having proper names for every portion of land and water, whether hill or dale, lake or running stream; and their never being at a loss in describing distant or unfrequented parts of their own country, some one or other present among the "listening crowd" having either visited the places spoken of, or received a narration from some one who had. Now, as no New Zealander is to be found who can positively state that he has actually seen such a bird, and as every nook and corner of the land is well known to the natives, I conclude that the animal in question no longer exists in New Zealand. In recording this opinion, it will be seen that I pay no attention whatever to the strange and fearful account of the *Moa* given by some natives, a relation which carries with it its own proof of being false; as I know full well the powers of the New Zealander for romance. The account, too, furnished to the Rev. W. Williams from the two American settlers, I also, in like manner, reject; but only as far as the bird whose bones we have before us is concerned. A very large and peculiar bird *may* exist [72] in the mountainous districts of the Middle Island; in fact, we know that several large birds, well known to the natives, though hitherto unknown to science, live on the high hills in the North Island. But I cannot persuade myself to receive one man's relation as perfectly correct in every particular, against the united testimony of those persons from among the different tribes of the Northern Island with whom I have conversed on the subject.<sup>381</sup>

In thus, however, disposing of that part of the question relative to the *present* existence of the *Moa*, we have still to enquire, at what period of time is it probable that this bird existed? And here, I think, we have to consider: first, the situation in which the bones are found; and, second, any additional evidence which native tradition may be able to afford us.

The *Moa* bones, as far as I have been able to ascertain, have hitherto been only found within the waters and channels of those rivers which disembogue into the Southern Ocean, between the East Cape and the South Head of Hawke's Bay, on the East Coast of the Northern Island of New Zealand. And, as I have before observed, they are only, when wanted, sought for after floods occasioned by heavy rains, when, on

the subsiding of the waters, they are found deposited on the banks of gravel, etc., in the shallowest parts of the rivers. These rivers are, in several places, at a considerable depth below the present surface of the soil,<sup>382</sup> often possessing a great inclination, at once perceived by the rapidity of their waters. They all have more or less of a delta near their mouths, from a slight inspection of which it is known that their channels have, in those places at least, considerably changed. The rocks and strata in these localities indicate both secondary and tertiary formations; consisting, the former of argillaceous schist, sandstone, conglomerate, greensand, etc.; the latter of clay, marl, calcareous tufa, sand, gravel, and alluvial deposits. The real depositum, however, of the *Moa* bones is not certainly known. For my own part, I am inclined to believe, from a consideration of the depths of the channels of the rivers, and of the class and situation of the prevailing rocks and beds of strata in those parts, that they will be found lying embedded in the upper stratum of the secondary, or the lower strata of the tertiary formation; and not, I think, improbably in beds of shingle, the [73] detritus of the deluge. In this opinion I, with some degree of diffidence, venture to differ from that of a respected and talented friend of mine, who supposes them to be of a much later period, and brought down from the mountains by the winter torrents; but, if they were thus conveyed from the mountains by the waters, the incessant rolling and friction to which they would have inevitably been exposed, would not only have broken off their finer parts, but would have also much battered and worn what remained. In all the specimens which I have yet seen, this, however, is not the case; for though broken and imperfect, they never appear to have been worn nor battered by friction, nor subject in any way to the action of water.

It has been alleged, that it is "in situations beyond the reach of river deposits that the fossil bones of ancient animals are usually found. "Whilst, however, for the avoiding of unnecessary argument, I grant this as a general rule, I would remark, that I do not for a moment suppose that the bones of the *Moa* are deposited in the beds of those rivers in which they have hitherto been met with. No; they show by their appearance that their place of concealment is not in water; and they equally, I think, indicate that their deposition has been in places effectually excluded from light and air, a fact which is, in my opinion, incontestably proved by the natives never meeting with them but when washed up or appearing on the beds of gravel in the rivers. We should not forget that the immense *Megatherium* was originally discovered by M. Sellon on the banks of the Arapay; and the greater part of an entire skeleton of that animal (which was brought to England by Mr. Paris, the English Consul at Buenos Ayres), was found by a peasant, half covered with water, in the river Salado.

From native tradition we gain nothing to aid us in our enquiries after the probable age in which this animal lived; for although the New Zealander abounds in traditional lore, both natural and supernatural, he appears to be totally

382 WC: The rivers at Waiapu and Turanga have high banks on either side, even where the country is a plain of rich alluvial deposit. Near Mangaruhe, and also near Whataroa (three days' journey inland from Poverty Bay), I descended the almost perpendicular banks of the river which falls into the Wairoa, where they were from thirty to sixty feet in height. This height they apparently preserved as far as the eye could trace them from the summits of the neighbouring hills. The Wairoa is a large river which disembogues into Hawke's Bay.

381 WC: See Note D, Appendix I.

ignorant of anything concerning the *Moa*, save the fabulous stories already referred to. If such an animal ever existed within the times of the present race of New Zealanders, surely, to a people possessing no quadruped,<sup>383</sup> and but very scantily supplied with both animal and vegetable food, the chase and capture of such a creature would not only be a grand achievement, but one also, from its importance, not likely ever to be forgotten; seeing, too, that many things of comparatively minor importance are by them handed down from father to son in continued succession, from the very night of history. Even fishes, birds, and plants (anciently sought after with avidity as articles of food, and now, if not altogether, very nearly [74] extinct), although never having been seen by either the passing or the rising generation of aborigines, are, notwithstanding, both in habit and uses, well known to them from the descriptive accounts repeatedly rehearsed in their hearing by the old men of the villages, descendants of ancient days. This very silence, however, I embrace as a valuable auxiliary evidence, bearing me out not a little in my conjecture, that the bones of the *Moa* will probably be found lying either in the upper stratum of the secondary, or the lower strata of the tertiary formation. In fact, unless we suppose this immense bird to have existed at a period prior to the peopling of these islands by their present aboriginal inhabitants, how are we to account for its becoming extinct, and, like the *Dodo*, blotted out of the list of the feathered race? From the bones of about thirty birds found at Turanga in a very short time and with very little labour, we can but infer that it once lived in some considerable numbers; and, from the size of those bones, we conclude the animal to have been powerful as well as numerous. What enemies, then, had it to contend with in these islands—where, from its colossal size, it must have been paramount lord of the creation—that it should have ceased to be? Man, the *only* antagonist at all able to cope with it, we have already shown as being entirely ignorant of its habits, use, and manner of capture, as well as utterly unable to assign any reason why it should have thus perished.

The period of time, then, in which I venture to conceive it most probable the *Moa* existed, was certainly either antecedent to or contemporaneous with, the peopling of these islands by the present race of New Zealanders.

But we will proceed, and endeavour to ascertain (as we proposed in the second place to do) to what order or family it is likely that the *Moa* belongs? In making this enquiry, we have little to assist us but the bones before us; and these, from the writer's situation in this land, without any known osteologic specimens for comparison, or any scientific books for reference, and also from the bones being so few in variety, will, he fears, afford him but little help.

From an attentive consideration, however, of these bones, we are necessarily led to conclude that the animal must have been of large size and great strength; and from the shortness of the *tarsus* (when compared with the length of the *tibia*) we also perceive it to have been short-legged. From its size, we shall naturally be led to seek for its affinities among either the *Raptorial* or *Rasorial* Orders; but from its *tarsi* possessing only articulations for three toes, we are at once

383 WC: The only quadrupeds indigenous to New Zealand are a dog, a small rat, a few Saurians, a bat, and, on the coast, one or two species of seal. [This note is a long one of nearly two pages in the original monograph, describing those animals. I omit it here, —W.C.]

precluded from supposing that it belonged to the former order; to which we may also add, *first*, the negative evidence that not a single specimen or fragment of a wing-bone has yet been found; and, *second*, the judicious observation of Cuvier (in [75] reference to the family of *Struthionidae*), that it would be morally impossible to fit such heavy bodies with wings sufficient to enable them to fly.<sup>384</sup> In the latter, however (the *Gallinaceous* or *Rasorial* Order), we have the largest and stoutest birds known. These, too, are terrestrial in their habits, some exclusively so, and very often possess only three toes. It is true that in general the different known members of the family containing the largest birds have their *tarsi* long (whereas those of the *Moa*, as we have already seen, are short). Yet to this we have exceptions in the extinct *Dodo* and the *Apteryx*; and I think it is highly worthy of notice, that the latter, the only known existing genus of the family possessing short *tarsi*, is entirely confined to these islands.

From a conviction, then, that it is in this order only that the affinities of the *Moa* are to be sought with any prospect of success, and that it is in the family *Struthionidae* where they will doubtless eventually be found, we are induced, for the present at least, to place the *Moa* in that gigantic group. In the absence, however, of a specimen of an *Apteryx*,<sup>385</sup> with which to compare the few bones we at present possess of the *Moa*, I should, I confess, be hazarding an opinion in saying that it was most nearly allied to that peculiar genus; yet when we consider that out of the *five* existing genera of this family, three at least, apparently possessing the nearest affinities to the remains of the bird before us, belong exclusively to the southernmost parts of the southern hemisphere,<sup>386</sup> and that a connecting link is, as it were, wanting between the *Rhea* of the Straits of Magellan, the *Dromiceius* of New Holland, the *Casuarius* of the Indian Archipelago, and the *Apteryx* of New Zealand, and that this connecting link *may*, in all probability, be supplied in the *Moa*, I think we shall be constrained to assign our *Moa* a place between the genera *Casuarius* and *Apteryx*, possessing as it does (only in a much greater degree) the immense size and strength of the former, combined with the short *tarsi*, and probably wingless structure, of the latter.

I venture, however, to suppose, that we may gain an additional gleam of light, both upon the probable period at which the *Moa* existed, and also [76] on the family to which it may be allied, by a consideration of the etymology of its name. The word *Moa*, whence is it derived? I confess, I know not any New Zealand word from which it may be supposed to have derived its origin. And this will seem the more remarkable when we consider that a very great number of New Zealand appellatives are not only derived and easily traceable, but are also generally highly expressive of some action or quality of the thing itself; chiefly, too, is

384 WC: The Baron's words are:—"It appears as if all the muscular power which is at the command of nature would be insufficient to move such immense wings as would be required to support their massive bodies in the air." (*Règne Animal*, Class Aves, Ord. V., Fam. 1.) If such were the spontaneous remarks made by that illustrious naturalist, on contemplating the size of the known members of that family, what would he not have said had he but lived to examine the colossal structure of the *Moa*!

385 WC: It has been my good fortune to have at different times several specimens of the *Apteryx* in my possession; at present, however, I have not one, nor do I know in whose possession one is to be found in New Zealand.

386 WC: See Note E, Appendix I.

this to be observed when such action or quality is peculiar or uncommon. But in the *Moa*, the most uncommon animal New Zealand has ever produced (especially in the estimation of a native), we have a cognomen which seems an entire exception to the common rule; for, as far as I understand it at present, it has, in reference to this immense animal, no meaning whatever. Further, it may not be amiss also to notice, *en passant*, that it is of rare occurrence in the language to find anything bearing so very *short* an appellation as the bird in question. In the Friendly, Society, and Sandwich groups, the term "*Moa*" has been, I believe, invariably given by the natives of those islands to the domestic cock, and used as the proper name for that animal by the missionaries there. The New Zealander, in relating his fabulous account of the *Moa*, almost invariably said it was like a "*tikaokao*," i.e., a cock (they having given the cock that name from its crow, which to them sounded like those letters when drawn out and pronounced after their manner), and that it was adorned with wattles, etc. Without, at all, at present, entering into the question as to what country or countries the existing race of New Zealanders emigrated from to these islands, the popular belief that at least a portion of them is of Malay origin, is, I think, in connection with the name of this bird, worthy of notice; for whilst we know the term "*Moa*" is used to denote the cock in the Friendly Islands and other groups, it is only in the isles of the Indian Archipelago that the cassowary (*Casuarius casoar*, Briss.) is to be found; and this bird, too, is "heavy and stoutly built," and the only one of the whole family of *Struthionidae* possessing wattles; for, according to Cuvier, it "has the skin of its head and top of the neck naked, of an azure-blue and fiery-red colour, with pendent caruncles like those of the turkey, and is the largest of all birds next to the ostrich."<sup>387</sup> May we not, I would ask, be allowed to conjecture, that in that now long-past period, when the forefathers of the present race of aborigines first landed on these shores, a few of those New Zealand birds might still be found in the most secluded and mountainous retreats, having hitherto escaped the repeated inroads of the original inhabitants; or, we may suppose that the bones only were seen, and identified to belong to a bird by those newcomers, to which, from their real or supposed [77] resemblance to those of the cassowary, they gave the name of *Moa*; the name which that giant bird bore in their fathers' land?

This conjecture, however, may be much more fully established, on ascertaining the name by which the cassowary is known to the present inhabitants of the islands of the Indian Sea.<sup>388</sup>

The ornithology of New Zealand, now that these islands are become a British colony, will soon be known; and we may rest assured, that if such an animal exists, it cannot much longer remain concealed. And, it is further to be hoped, that ere long we shall be able to find somewhat more of the fossil remains of the *Moa*, so as not merely to form in part conjectural opinions on its size, habits, and affinities, but so as to be well-assured of what this prodigious creature really was.

387 WC: Vide Cuvier "Règne Animal," Glass Aves, Gen. *Casuarius*.

388 The Malay word is "kesuari" (hence "cassowary"); "emu" is closer.

## APPENDIX, I.

### NOTE A, page 64.

The *Tuatara* is an animal belonging to the class *Reptilia*, order *Sauria*; but to which of the families composing the same, I cannot, in the absence of books of reference, at present determine. It appears to possess characters common to *Lacertinidae* and *Iguanidae*, in its having the thin and extensible tongue of the former, combined with the undivided one of the latter. It is common in some parts of New Zealand, particularly on rocky headlands and islets lying off the coast. I have one at present in spirits, which I had alive for nearly three of the winter months; during which time, although I repeatedly tried to get it to take some kind of food, I could not succeed. From its habits I supposed it to be a hibernating animal. It measured 19 inches in length, had a row of elevated spines (or rather recurved scales) nearly the whole length of its back, and appeared a perfectly harmless creature. It was taken, with two others, on Karewa islet, off Tauranga harbour, in the Bay of Plenty. The natives speak of another species possessing a forked tail! and assert that a larger species, which inhabits swampy places, has been seen six feet in length, and as thick as a man's thigh. The largest, however, that I have ever heard of did not measure above two feet in length.

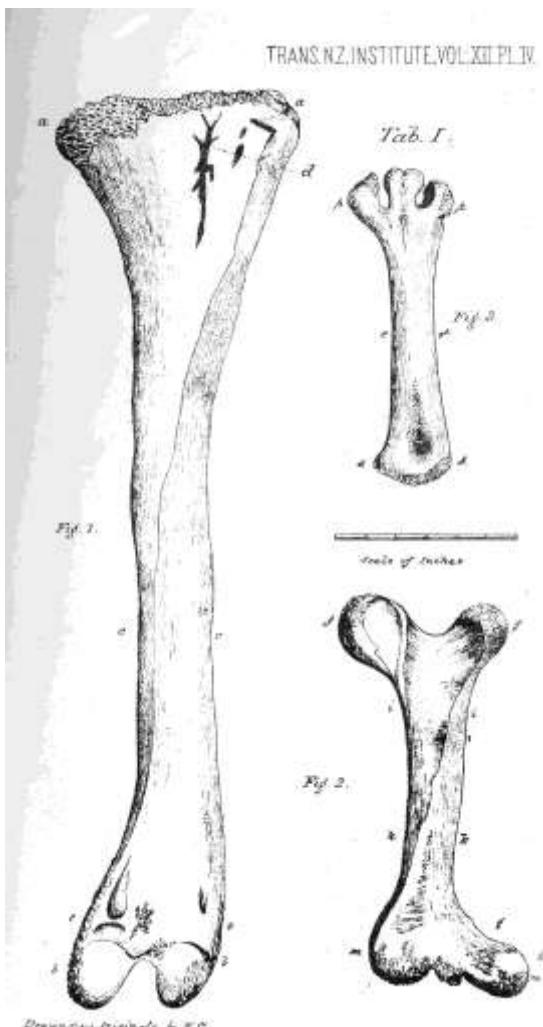
### NOTE B, page 65.

The shells of several species of *Haliotis*, *Ostrea*, and other nacreous genera, are commonly used by the natives inhabiting the isles of the South Pacific for this purpose. A narrow slip of the shell is firmly fastened to the back of the hook, the barb of which is generally concealed by a tuft of metallic-surfaced blue feathers, procured either from the Korora (*Aptenodytes minor*) or the Kotaretare (*Dacelo Leachii*). The hook thus prepared and attached to a stout line, composed of the fibres of the Korari (*Phormium tenax*), which, after being cleaned from the parenchymatous parts, are twisted together with the hand, is drawn quickly through the water by a person paddling a small canoe; the larger fish, believing this glittering lure to be their prey, eagerly pursue it, and greedily catching at the same are taken. In favourable weather a great number of fine fish are soon captured by this method. Among the New Zealanders it is a very favourite sport, and one that is not a little animating, when several canoes are engaged. I have seen upwards of twenty small canoes thus employed on a fine summer's evening, on the beautiful sheet of water in the Bay of Islands. I may here mention, that previous to the introduction of the Gospel among the New Zealanders, their hooks were often composed of human bone; those of their enemies being used for that purpose. Sometimes they formed their hooks from the tough stalks and branches of Tauhinu (*Pomaderris ericifolia*) and Mangemange (*Lygodium volubile*), hardening them by the aid of fire. At present they invariably prefer the hooks which they make from iron nails to those of our manufacture, the latter, they allege, being much too brittle.

### NOTE C, page 65.

Whoever has read the marvellous 'Thousand-and-one Nights' must be well acquainted with the monstrous stories related of this extraordinary bird; its celebrity, however, is not confined to that work. "*Rukh*" says the author of the Arabic Dictionary, "is the name of a monstrous bird which is said to have powers sufficient to carry off a live rhinoceros." To this animal Marco Polo also refers, in his relation of the story of the ambassadors: — "The *ruk* is

said, by persons who have seen it, to measure sixteen paces across the wings from tip to tip, the feathers of which are eight paces in length, and thick in proportion. A feather of the *ruk* was brought by those messengers who were sent by the Grand Khan for the purpose of making inquiries respecting it, which feather is positively affirmed to have measured ninety spans, and the quill part to have been two palms in circumference." The existence of this immense bird seems to have obtained universal credence throughout all the eastern nations; and while ancient historians make mention of certain enormous and peculiar animals as common to the Orientals, scientific men of modern times have wisely omitted such relations from their nomenclature.



#### EXPLANATION OF PLATES IV. AND V.

##### PLATE I.

FIG. 1. *Tibia* of *Moa*, nearly perfect, 30 inches in length.  
 a, a, girth 16½ inches, bone at the end much broken  
 and reduced in size.  
 b, b, girth, over processes, 12½ inches.  
 c, c, girth, 5¼ inches; smallest part.  
 d, deep muscular impressions.  
 e, e, girth, 9 inches.

*Note.* —The largest *Tibia* yet found measured 4 in. longer than this.

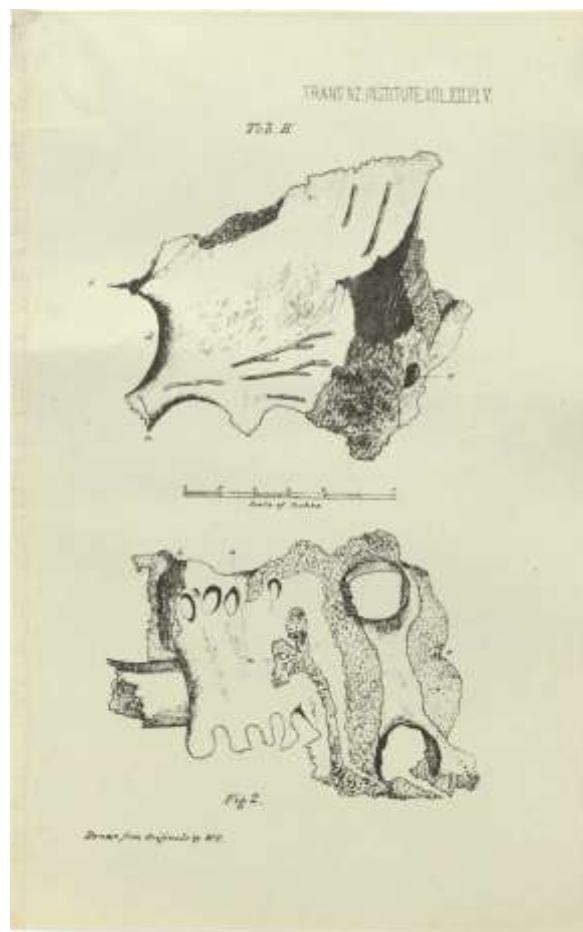
FIG. 2. *Femur* of *Moa*, nearly perfect, length 13 inches.

f, f, girth 12½ inches.  
 g, g, reticulated muscular impressions, very  
 numerous.  
 i, i, girth, 7¾ inches.  
 k, k, ditto, smallest part, 3½ inches.  
 m, m, ditto, 11¼ inches.

*Obs.* —I have seen a perfect portion of a *femur*, the *small* part of which measured 8 inches in girth! The one from which the drawing was taken, though not so large, was more perfect.

FIG. 3. *Tarsus* of *Moa*, nearly perfect; length 10 inches.

p, p, girth, 9 inches.  
 r, r, ditto, 4 inches.  
 s, s, ditto, 8 inches.



##### PLATE V.

Fig. 1. Upper surface of fragment of *pelvis* and *dorsal vertebrae* of *Moa*; deeply indented with muscular impressions.  
 a to b measures 9½ inches.  
 c, canal of *Medulla spinalis*.  
 d, outer edge of *acetabulum*.

*Obs.* —This bone differs very considerably from such bones in other birds, in its peculiar carinated shape in that portion which must have formed the lower part of the back. It must have been also considerably larger when entire, as the whole of the upper ridge is much broken.

FIG. 2. Under surface of Figure 1.

a, a, a perfect part of bone, where, in the narrowest place, it measures 3 inches half-way across.  
 b, outer edge of *acetabulum*.  
 c, canal of *medulla spinalis*.

**NOTE D**, page 72.

After all, it may very possibly be observed by some, that I act rather more precipitately than is consistent with judicious consideration in thus rejecting *in toto* the whole of such evidence. And such persons may also recollect the hastily formed conclusion originally arrived at by some of the first Continental naturalists, in reference to the existence of the *Apteryx*, the Moa's probable congener:—"L' *Apteryx* de M. Temminck ne serait-il pas fondé sur les pièces de *Dronte (Dodo)* conservées au Muséum de Londres?"—*Lesson, Manuel d'Ornith.* ii., p. 211. I do so, however, *on the spot*, after long investigation and careful consideration of the whole matter.

**NOTE E**, page 75.

It may not be amiss to give here an outline of the genera composing the family of Struthionidae, seeing they are but few. Each genus contains but a single species. In the present state of our knowledge the group may be thus arranged: —

Class AVES. Order IV. Rasores, Vigors. Family IV.  
Struthionidae.

1. Genus *Struthio*, Linnaeus. (Type of the group), Ostrich of South Africa: possessing two toes.
  2. Genus *Casuarius*, Brisson. Cassowary of the Indian Archipelago: three toes.
  3. Genus *Dromiceius*, Vieillot. Emeu of N.S. Wales: three toes.
  4. —— *Rhea*, Vieill. Nandu of Straits of Magellan: three toes.
  5. —— *Didus*, Linn. Dodo, formerly an inhabitant of the Isles of Mauritius and Bourbon: three toes: extinct!
  6. Genus *Apteryx*, Shaw. Kiwi of New Zealand: three toes and a rudimentary one.
  7. —— —? —? <sup>389</sup> Moa of New Zealand: three toes: supposed to be extinct.
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**PART II.—What I have gleaned since.****§ I. POSITIVE** (if such it may be called)!

## I. MYTHS, OR LEGENDS.

1. *The Myth of Ngahue.*

IN all the legends and myths of the Maoris that I have heard recited, and taken down, and received from them in writing (including, also, those published by Sir G. Grey<sup>390</sup>), I have only once met with any mention of the Moa; and this is in the very ancient Mythe of Ngahue,<sup>391</sup> who, it is said, visited New Zealand *before* the so-called migration hither from "Hawaiki;" therefore it is that I place this legend first in order. In this legend, which is a particularly interesting one, the Moa is mentioned twice; but then only in the most

<sup>389</sup> WC: Prof. Owen's observations on this subject are given on p.444, vol. xii., and p.59, vol. xiv., of this Journal; the generic name of *Dinornis* has been given by Prof. Owen to this monster bird, and no less than five species distinguished.—Ed. [*i.e.* editor of the *Annals*; actually Owen's description was in Vol 5 (30): p166].

<sup>390</sup> WC: "Polynesian Mythology," 1855.

<sup>391</sup> WC: Called in the Polynesian Mythology (p. 132), "The Legend of Poutini and Whaiapu."

casual way—provokingly so! I shall just give here the *two* short sentences from that original Maori tale; as I intend translating the whole of this brief legend with explanatory notes shortly. Strangely enough, the translation of this tale given by Sir G. Grey (*supra*) omits one of those two sentences which mention the Moa, or I would willingly quote from his published translation.

Of Ngahue it is said, that he arrived in New Zealand and visited both Islands; and on his returning from the South, Arahura (= Westland), and on his way to the East Coast, Whangaparaoa (= Cape Runaway), "he killed the Moa at Te Wairere."<sup>392</sup> [81] On his return to Hawaiki he related that "he had seen the land containing the green jade stone and the Moa."

2. *The Legend of the Destruction of the Moas by Fire, etc.*

A few years ago, while engaged in prosecuting my Maori etymological enquiries for the New Zealand Lexicon, I received the following from an old intelligent chief of the East Coast respecting the Moa:— "Anciently the land was burnt up by the fire of Tamatea; then it was that the big living things, together with the Moas, were all burnt. Two Moas, however, survived with difficulty that destruction—but only two; one of these lived at Te Whaiiti, and one at Whakapunake.<sup>393</sup> The feather of this one at Whakapunake has been seen and found; it was preserved as a plume decoration for the heads of dead chiefs of note, when their bodies were laid out on a sumptuous bier for the funeral obsequies. The name given to that feather was *ko-te-rau-o-piopio* (= the special plume of Piopio). The forefathers of the Maoris heard of the Moa, but they never saw its body, only its bones."

Falling-in lately with an old chief of the Ngatiporou tribe, from Tokomaru, near the East Cape, and enquiring of him, if he knew anything of the Moa? He replied, "No; all that was known by them was the old tradition from their forefathers, that the Moas all perished through the fire of Tamatea, save one which escaped to the mountain Whakapunake; where it was said to sit in its cave with its mouth open, and hence to live on air."

Here I would observe, that Tamatea is a very ancient name in the New Zealand mythological history, and is frequently mentioned both in their proverbs and songs. It occurs, also, several times with varying suffixes full of meaning in their old astronomical lore (of which more anon). Tamatea is said to be one of the sons (or grandson) of Tato, who, according to some genealogies, was the fifth lineal descendant from the first man Rangi = the sky; their names are thus given together in one of their old genealogies:— "Now I will begin to rehearse the coming hither of Tamatea, his fathers, and elders; these are the names of his children, Rongokako, etc.; these are all the children of Tato."<sup>394</sup> And these are also said to have come hither in the *waka* ("canoe") Takitimu. While another genealogy (that of the Hawke's Bay tribe—Ngatikahungunu), commencing also with Tato, [82] gives

<sup>392</sup> WC: Probably the cliff and waterfall of that name near the river Waihou, between Tauranga and Matamata.

<sup>393</sup> WC: Vide Part I., pp. 64-68.

<sup>394</sup> WC: I give also the Maori of this, on account of some of the names: — "Ka timata tenei i te haerenga mai o Tamatea ratau ko ona matua; ko nga ingoa enei o ana tamariki,—ko Rongokako, ko Hikutapuae, ko Hikitaketake, ko Rongoaimoa, ko Taihopi, ko Taihapoa, ko Kahuia, ko Motoro, ko Te Angi, ko Kupe, ko Ngake, ko Paikea, ko Uenuku,—ko nga tamariki enei a Tato."

his son as Rongokako, whose son was Tamatea, whose son was Kahungunu, and from this man (the founder of their tribe) down to the present generation are just twenty-one generations. In another old story we have the following:—“When Tamatea arrived, he burnt up the tangled mass of herbage and scrub from the surface, then it was that man, possessing useful land, dwelt and lived well.”

### 3. Of the “Feathers,” etc., of the Moa.

On my reading the first part of my paper on the Moa,<sup>395</sup> a discussion ensued; when Mr. Locke, who was present, said that he had formerly heard when travelling in the interior among the Urewera tribe, a very similar relation from them in reply to his enquiries respecting the Moa; and that he had also heard more than once from the old chiefs on the East Coast, south of Hawke’s Bay, that they had themselves seen the feathers of the Moa, which were anciently used for head decoration. As this, about the feathers and their use, was new to me (as coming from these persons), I lost no time in making further enquiries in that direction, and the following (extracted from several letters) is the result:—

1. (*May 7, 1879.*) “This is a return to your questions concerning the Moa. I have made diligent enquiry of the chief Hawea and others. At that very time, too (when the letter arrived), the chief James Waiparera was here staying; he had come from his place at Patangata to conduct hither certain visitors from Rotorua and from Tauranga. They all heard me read to the chief Hawea your long letter of enquiries, even unto the end of it. Then they said, to take up each question separately; and this was also done. Then they all, including Hawea, said to me: Write to him (Colenso), and say, No man of old ever saw the Moa; the last of men, perhaps, who ever saw the Moa, was in the time of Noah;<sup>396</sup> because it was at the time of the overturning in the days of (or by) Mataoho<sup>397</sup> that the race of Moas died, whose bones are now seen. The men of the after times did not (see it); the men also who preceded Wahotapaturangi<sup>398</sup> did not see it, down to the times of Te Heheu; and now here also am I, an old man, relating this. All those men never saw the Moa, also myself I never saw it. [83] I cannot possibly tell a lie in this matter to thee (emphatic), and say, I saw, or I heard of it. Those men of olden time, as I have said, never saw<sup>399</sup> the Moa—that is; its body, its size, its length, its height, its feathers—never once. No man ever heard of the taste of its flesh, and of its appearance; or of its fat, or its skin, or its being sweet or bitter to the taste.<sup>400</sup> For if, indeed, those men of old had known anything of the Moa, they would have left that knowledge to be talked of and handed down to

395 WC: Trans. N.Z. Inst., Vol. XI., p. 568.

396 WC: This, of course, is from Genesis, and refers to the deluge.

397 WC: Thus referred to in the very old legend of Tawhaki:—“Tawhaki, having recovered from his wounds, left that place, and went and built a fort on the top of the mountain for himself and tribe, where they dwelt. Then it came to pass that the rain was let down from the sky, and the land was overwhelmed, and all men died; from which circumstance (that flood) was named—‘The overturning of Mataoho;’ and so they perished.” (See this amplified in “Polynesian Mythology,” p. 61.)

398 WC: This was Hawea’s grandfather, who, with his son Te Heheu, saw Cook. Te Heheu died about thirty years ago, old and full of days.

399 WC: I believe the true meaning of the verb (kite), here, is—heard of, i.e., knew from relation; heard it clearly described.

400 WC: All this is with especial reference to my many separate enquiries.

the men of after times. But inasmuch as those men of the olden time did not know, therefore it is most certain that these men who came after them did not know also. Again: you enquire, ‘How is it that the Maoris of to-day know these bones which they see to be of the Moa?’ According to my way of thinking, our old ancestors saw those said bones and called them so, and thus it is that we now know them to be such. But no man of old knew anything more of them, so that they knew it (as) food, or the real living appearance of its bones (when clothed with flesh), which are now seen by us bigger than those of a horse! Hawea also says, No man of old before the time of Wahotapaturangi knew anything of the food of the Moa, or of its habitat. This phrase, ‘the air-eating Moa’ (=te Moa kaihau), is only a common proverbial saying among us; it is often applied to a man; a man-moa is such-a-one who turns away from his food and lives on air. Again, with reference to the feathers of the Moa, it is said that the feather called the plume of Piopio (*Te rau-o-piopio*) is from the Moa. When the chiefs of the Maoris die, then this feather is stuck in their hair, and the body so decorated is placed on the raised platform (prepared for it), and the friends and visitors, on seeing it, exclaim, ‘Thou art good (or beautiful), O plume of Piopio!’ Here ends what was said by Hawea and his friends, visitors, about the Moa.”

2. (*July 4, 1879.*) “Referring to your further enquiries about the feather of the Moa, called the plume of Piopio, Hawea says,—there is no known body whence came this feather; the body in which it had been fixed was that of the Moa at the mountain Whakapunake; it was a feather from it. It was blown hitherwards by the winds, and, on its being seen, drifting, it was picked up. When a chief died, that feather was taken and used for head decoration while lying on the ornamented stage, or bier; and when the corpse was finally borne away, that feather was taken out of the hair and preserved for some other chief who should afterwards die. Hawea also says that the look of this feather was just like that of the Peacock, that it did not differ a bit in its glossiness and variety of colours, in its [84] length, and in its ocellated appearance; its great beauty altogether was exactly that of the feather of the Peacock.”

3. (*July 18, 1879.*) “This is in answer to your new and repeated questions to Hawea concerning the said. feather called *Te rau-o-piopio* (= the plume of Piopio) and *To Kowhakaroro*; this is what he says:—I will first speak of the body whence came that feather. I have heard formerly the old men talking and saying that the Moa fed on air (or wind); that it never walked about, but kept its head always turning. The Moa race was killed through the overturning of the Earth by (or in the time of) Mataoho; therefore it is that only the bones are now found. Another saying of theirs, that one Moa only escaped from that destruction, and this one dwells within the cave at the mountain Whakapunake; but this (saying) perhaps is false, and this is my reason for saying so:—In my time (early days) a travelling party went thither, and I saw how they were teased about it on their return. A feather, however, was found stuck fast on a white pine tree (*Kahika*), which was brought back. When Matawhaiti died, (the ancestor of Tukuwari,<sup>401</sup>) this said feather was stuck in his hair, and it was afterwards reserved for that purpose of decorating the heads of deceased chiefs when laid in state upon the bier. I, myself, saw that feather on that occasion; and so did (many of) the men of Te Wairoa and of Te Whakakii (in Hawke’s Bay), they also

401 WC: An aged chief still living here in Hawke’s Bay.

saw it. That one feather bore two names—*Te rau-o-piopio*, and *Te Kowhakaroro*. It was like the feather of the Peacock, that is in its ocellated appearance; very likely if that bird, the Peacock, had been a native of this island, then that feather would be certainly said to be a Peacock's feather. All those are Hawea's words."

4. (*July 21, 1879.*) "Shortly after my last letter to you was written, a visiting party arrived here from the neighbourhood of the mountain Whakapunake, and we again talked—about the Moa, on account of your enquiries. Those men say, in addition to what I have already informed you,—that the famed Moa of Whakapunake bore twelve of those beautiful round-eyed feathers, resembling those of the Peacock. From (signed) Hawea."<sup>402</sup>

## II. PROVERBS.

1. *He koromiko te wahie i taona ai te Moa.*

The firewood with which the Moa was baked was of Koromiko (*Veronica salicifolia*). [85]

This is often said on seeing the hissing sap-like exudation issuing from the branches of the Koromiko shrub when fired, green or wet; which sap is also said to be the fat, or oil, of the Moa.

Note, here, the mode of cooking, as shown by the verb (*tao*), is that of the earth-oven or *haangi*; but the koromiko shrub is never used for such a purpose, the wood being much too small.

[I may here mention that the late Sir Donald McLean, who had kindly endeavoured in former years to glean some information for me relative to the Moa, in his travelling in his official capacity and meeting with the old Maori chiefs, told me that this common saying was all he had met with.]

But then a similar proverb, or saying, is also used concerning this very same shrub when burnt green, connecting it with Tutunui, the pet whale of Tinirau (which whale was killed and roasted and eaten by Kae, as fully related in their myths);<sup>403</sup> namely—"Tena te kakara o Tutunui! = Excellent is the nice smell of (the whale) Tutunui (roasting)!

2. *He mihiā te kowhatu i taona ai te Moa.*

*Mihiā* was the (kind of) stone with which the Moa was cooked, or baked.

This apparently simple saying has given me a world of trouble. During several years I have been enquiring the kind of stone called *mihiā*, but with little or no success. One intelligent old chief only, seemed to know something about it; according to his statement, a *mihiā* was one of three sorts of stone anciently used for cutting and lacerating their flesh in times of grief, and death of relatives—*waiapu*,

*paretao*, and *mihiā*—and all three were, I think, of a volcanic nature (*Waiapu-obsidian*), and therefore could not be used for common baking purposes; besides, their own highly superstitious fears as to any desecration of the *tapu* would have prevented their so using them. Has this any hidden, or obsolete, reference to the "fire of Tamatea" (*supra*)? which is said to have originated from the country near the burning mountain Tongariro.

Further, the name itself is a strange one. Etymologically it means—thy expressed grief after something dead, or gone; *mihi* = grief, or affection shown after something absent;<sup>404</sup> *au* = thy, or thine; and as such the name would be a highly poetical one for a cutting bit of sharp stone used only for lacerating purposes on account of the departed.

3. *Ko te huna i te Moa!*

All have been destroyed as completely as the Moa! Said of a tribe—of a fighting party—of the people of a village—or of a family, when all have been surprised and killed—or carried off by death. [86]

4. *Kua ngaro i te ngaro o te Moa!*

All have wholly disappeared, perished, just as the Moas perished; none left! (A saying similar to the foregoing, and used under similar circumstances).

5. *Na te Moa i takahi te raataa.*

The Raataa tree (*Metrosideros robusta*) was trampled down, when young, by the Moa—hence its irregular growth. (The meaning being, early evil habits are not to be afterwards overcome. "Just as the twig is bent, the tree's inclined.")

6. *Ko te Moa kai hau!*

Even as the Moa feeding on air!

This saying, which is also very ancient, arose from the belief of the myth that the Moa (the one that had escaped from the universal fiery destruction) resided in a cave on the top of the mountain Whakapunake, with its mouth wide open; hence it is said to feed on the wind, or air.

7. *He Moa oti koe, ina ka kore koe e kai?*

Art thou, indeed, a Moa, that thou dost not eat?

8. *He Moa kai hau!*

A Moa living on air!

9. *He puku Moa!*

A Moa's stomach, or appetite!

Those last four proverbial sayings, nearly alike in meaning, are used—(1) in banter of a man in health who has no appetite for food; and (2) of a woman who at meal times cares not to eat, through being very deeply in love—her lover being absent, or his person not agreeable to her tribe and family, and so her affections are crossed, etc., etc.

Of this latter we have a notable instance in Hinemoa, the woman whose name is handed down in a tradition of the olden time, as having swum in the night from the mainland at Rotorua to Mokoia, the island in the large lake there, to meet her lover, Tutanekai, the object of her desire. Hence, too, as her people suspected her, seeing she did not care to eat, etc., she got the provisional name of *Hinemoa*, which

402 WC: I have been careful to be exact in making those translations of, and extracts from, Hawea's letters to me, even to the repeating of some portions, as I wished to give them as I received them;—it may be for future reference. I had purposed the giving them also in their original Maori, in the Appendix to this paper. Hawea, being aged, very rarely writes himself, but employs constantly a middle-aged Maori, named Hamuera, to write for him; who, I know, is to be relied on for accuracy: hence it is that Hawea is generally spoken of in the third person.

403 WC: Vide "Polynesian Mythology," p. 92.

404 WC: See Tangaroa-mihi, "Trans. N.Z. Inst." Vol. XI., p.100.

subsequently stuck to her; like many other names of very frequent occurrence among the Maoris, through derision, accident, fault, war, etc. *Hine* = young lady, daughter of rank; and *Moa* = the mythical animal—i.e., the young lady who left her food, or lived on air (just as the Moa), on account of her love for her sweetheart.

Her name has been given to the Colonial Government steamer ‘*Hinemoa*.’

There is still, however, another meaning belonging to the words “*He kai hau*;” namely, that it is the name of an ancient malediction or curse used by sorcerers; in which death is invoked on him who makes a practice of receiving gifts without giving any in return, so that he pines away and dies. This, in connection with the mythical creature the Moa, might [87] sometimes also have had something to do, among such a dreadfully superstitious race, with sudden and unaccountable loss of appetite. This remark, however, can only be fully appreciated and considered by those who well knew the ancient Maoris in their old times of superstitious fear and dread; when everything which happened and could not be satisfactorily accounted for, was immediately placed to the malevolence of some fancied supernatural demon (*atua*), or human sorcerer (*kai-makutu*).

### III. POETRY.

1. In a long and ancient poem, or chaunt, called “the Lament of Turaukawa”—in the midst of many similar references to the oldest Myths and Legends—occur these lines: —

——— Kua rongo 'no au  
Na Hikuao te Korohiko,  
Ko te rakau i tunua ai te Moa  
'A rewā aana hinu.”<sup>405</sup>

I have indeed heard (from olden times),  
That the Korohiko<sup>406</sup> (shrub) was by Hikuao  
The very tree with which the Moa was roasted  
When all its fat was melted down.

2. A lament, or dirge, over the slain, concludes with these words: —

“Mowairokiroki, ko te hunia i te Moa,  
I makere iho ai te tara o te marama.”<sup>407</sup>

Very calm and placid now the raging billows have become,  
Even as (it were) at the total destruction of the Moas,  
When the cusps of the new moon dropped off and fell down  
(to earth).

3. In another song is a very peculiar reference to the Moa, such as I have never heard of or met with anywhere else, except in Hawea’s relation respecting the use of that one feather (*ante*). The song itself being very short, just one stanza, I shall give it in its entirety with an almost literal translation: —

“E! muri koe ahiahi ra,  
Tango mai te korero, o namata,  
O nahe rawa, o nga kahika;  
E, kei runga riro,  
Kei a Kahungunu;

405 WC: Sir G. Grey’s “Poetry of the New Zealanders,” p. 324.

406 WC: Korohiko is another name for Koromiko = Veronica, sp.

407 WC: “Poetry of the New Zealanders,” p. 180.

Ko te manu hou nei e, te Moa,  
Hei tia iho mo taku rangi.”<sup>408</sup>

Alas! afterwards do thou in the evening hours  
Produce and begin the talk of old,  
The story of the very earliest times  
Of the great ancient men;  
Thus let it be, begin with the very beginning of all,  
[88] With the chief Kahungunu;  
So that the bird’s plume here present,  
That is to say of the Moa  
Shall be stuck into the hair of my principal chief (or beloved one).

Meaning, the principal one spoken of, or being now bewailed.

I should say (1) that this song is not a very ancient one; (2) that it must have been sung by some of the Maoris of the East Coast, descendants of Kahungunu; (3) that Hawea’s statement throws great light on it; (4) that such a song would be highly suitable, and wholly in keeping with what would be sure to take place, as preliminaries, on the assembling together at the death of a chief,—say, the first day or evening of meeting; (5) that on such occasions the assemblage would begin with their tribal progenitor (Kahungunu) and come down *gradatim* to the one lately deceased (lying before them), who would thus have the last word; (6) that it is more particularly applicable (from the last two words) as a lament over a *young* person of high rank.

4. Another song from the East Coast concludes with this stanza:

“Tu tonu Puhirake, ko te Moa kai hau,  
He whakareinga rimu ki o pou, raia.”<sup>409</sup>

Which, as the song is a peculiarly taunting one, may be thus translated: —

Poor betrothed beauty, there thou art alone and forlorn,  
standing continually in the midst of the dense thicket, even  
as the Moa feeding on air, thy posts (supports or fences) are  
only for the long, shaggy, ash-coloured, lichen to fly and  
adhere to, nothing more!

To the Maori those two lines possess a whole multitude of suitable images and ideas.

5. In an ancient dirge-like song, or chaunt,<sup>410</sup> of great poetical depth and beauty, and very carefully composed,—often used in times of heavy disaster and death, the old and common proverbial saying already noticed,<sup>411</sup> (“*Kua ngaro i te ngaro o te Moa!*”), is brought in with thrilling effect at the end of the third stanza.

Here I may mention that, in 1852, at a season of extraordinary calamity here in Hawke’s Bay, I both re-wrote (*a-la-Maori*) with variations, and translated into English, this composition; and on my reciting it, in Maori, before several chiefs who were assembled here from several places in the southern portion of this North Island (one of whom was the late Karaitiana), I was not a little surprised to find they could all join in many of its parts, including the ending

408 WC: “Poetry of the New Zealanders,” p. 133.

409 WC: “Poetry of the New Zealanders,” p. 96.

410 WC: “Poetry of the New Zealanders,” p. 9.

411 WC: Vide “Proverbs” (*ante*), p. 86.

of all its stanzas. I then discovered that it had long been a truly national poem (so to speak), and, like very many others [89] of their poetical effusions, altered from time to time to suit the *present* occasion.<sup>412</sup>

I have carefully gone through more than 900 pieces of Maori poetry, including Sir G. Grey's published collection, some of them very long (and not a few of them written coarsely in a wretched hand); indeed, I may say I have laboriously studied them all in the course of many years, and these few lines which I have here brought before you are all that I have been able to discover in them relating to the *Moa*—just those five small scant and antiquated sentences! There are, however, a few others containing the bare word "Moa," but those are merely references to names of persons, or poetical contractions of other common words having in them those three letters, and possessing little or no bearing on the subject before us.

#### IV. NAMES OF PLACES AND OF MEN OF THE OLDEN TIME WHICH CONTAIN THE WORD "MOA."

Of such I have obtained several; but—as I cannot, in a single instance, be sure of the word or term in question strictly belonging to the extinct animal or bird *Moa*—I shall defer the consideration of this part of my subject to the second (or negative) head of this enquiry.

##### § 2. NEGATIVE.

1. In all the many legends and myths of the Maori, some of which are of great antiquity—from *before* the time of their common genealogical period or beginning, commonly known as "Hawaiki," or "no Hawaiki"—there is no mention of, nor reference to, the *Moa*, save that one solitary and brief intimation I have already quoted.<sup>413</sup> And yet there were plenty of opportunities in them of bringing the living *Moa* prominently forward, if that animal were then known, or, at all events, of some casual allusion to it, or to their manner of capturing and killing it. As, for instance (among many others), in their several fables of birds, in which the birds converse one with another, etc., as may be seen in the Fable of the Great Battle of the Land and Sea Birds;<sup>414</sup> in that of the *Hokioi* (another large and extinct bird), and the *Kaahu* (hawk); in the myths of the slaying of those several Saurian monsters;<sup>415</sup> and in the old legends of Maui, and of Hatupatu and his brothers, in which the various birds are made to play such an important part;—those ancient stories are all silent concerning the *Moa*. So, again, where in them special mention is made of the food, particularly birds, to be found in plenty in certain regions; such as was said of the chief Takakopiri, in the legend of Kahureremoa—that "he was a great chief, and had abundance of food of the best kinds on his estates; plenty of potted birds of all kinds (pigeons, and *tuis*), and *kiwis*, and *kiores*, and *wekas*, and eels;" [90] and again it is said, the question was asked, "What is the name of yonder mountain? and they answered, That is Otawa. And the young girl asked again, Is the country of that mountain rich in food? and they replied, Oh,

there are found *kiores*, and *kiwis*, and *wekas*, and pigeons, and *tuis*; why, that mountain is famed for the variety and number of birds that inhabit it."<sup>416</sup>

2. Further: with reference to the very great use of feathers as ornaments for the hair, which were greatly prized by the chiefs of olden days, there is also no mention, no allusion, however distant, to any feathers of the *Moa* in any of their legends; although there are plenty to the feathers of other birds, sea and land,—both as head decorations and as forming cloaks, for which latter purpose those of the *Kiwi* were commonly used. And from the now known fact, of the *Moa* being also a struthious bird and a congener of the *Kiwi*, and its common body feathers equally as well if not better adapted, being stronger and tougher, for the feather-cloaks of the ancient Maoris. How are those omissions to be accounted for if the *Moa* were known? Especially if (as Hawea says) that one feather he had seen was so surpassingly handsome! In the old Legend of Marutuahu we read of the killing of birds for food in the interior, and of the young chief, who had been out hunting and spearing birds, dressing himself finely in his cloaks and feathers, when, "after combing his hair he tied it up in a knot, and stuck fifty red *Kaaka* (= Parrot) feathers in his head, and amongst them he placed the plume of a white heron, and the tail of a *huia* as ornaments; he thus looked extremely handsome, and said to his slave, Now let us go: for he now appeared as handsome as the large-crested cormorant."<sup>417</sup>

3. Their proverbs, too,—many of which are very old—contain no other allusion to the *Moa* than those few very meagre and misty mythical ones I have already quoted; and yet they deal largely with all Nature, animate and inanimate, known to the New Zealander; the various animals, particularly birds, coming in for a full share of notice; of those drawn from birds alone—their natural habits, powers, feathers, appearance, uses etc., I have collected nearly 70. Here, too, we find proverbs in plenty relating to food and delicacies,—especially to what, being wild, was obtained by hunting and snaring :—e.g.—

*"Haere i muri i te tuara o Te Whapuku,  
Kia kai ai koe i te kai whakairo o te rangi."* [91]

— When you travel, join yourself to the company of the great chief Te Whapuku, that you may eat of all the choicest delicacies (particularly game and wild fowl);—which delicacies are stated to be (by an old Maori chief commenting thirty years ago on this very saying) "birds" (pigeons and *tuis*) "potted in their own fat in calabashes, parrots, and ground-parrots (*kaakaapoo*), rats, and eels, and berries of the *tawa* and *hinau* trees."—Another pregnant omission!

4. If their old proverbs contained little allusion to the *Moa*, their old poetry contained still less (as far as is known to me.) And here I may also briefly mention two peculiar quaint poetical ditties of the old Maoris, both being long laments after nice and plentiful food formerly known and eaten; in which every chief article of pleasant food is severally noticed, together with its habitat. The one being a

412 WC: Vide "Essay on the Maori Races;" Trans. N.Z. Inst., Vol. I., p. 47, Essay.

413 WC: Vide p. 80, Legend of Ngahue.

414 WC: See Trans. N.Z. Inst., Vol. XI., p. 101.

415 WC: See Trans. N.Z. Inst., Vol. XI., p. 87, etc.

416 WC: "Polynesian Mythology," pp. 262, 264.

417 WC: "Polynesian Mythology," p. 250. And, also, that Cook, with his band of scientific men with him, while they often speak of the quantity and variety of feathers with which the New Zealanders ornamented their hair, mention them as belonging to New Zealand birds they had seen or secured: and those chiefs dressed themselves in their very best finery.

kind of nursery-song, chaunted to a child while nursing it; the other the lament of the chief Kahungunu (who lived twenty-one generations back), when away in the cold Patea country in the interior; in both of which, while mention is made of many birds, no allusion whatever is made to the big fleshy food-yielding *Moa*!

5. Moreover, while the ancient Maori possessed charms and spells, and prayers for luck in plenty for everything they did, particularly for fishing and fowling and the snaring of rats; and such, too, varied for every different animal whether of the land or of the sea; how is it that there is none for the *Moa*? which must by far have been the most difficult to catch or kill; or, at all events, by far the biggest game of all! Here we have, still extant, those charms and spells for being successful in taking the various birds—*kiwi* (*Apteryx*), *kaakaapoo* (ground-parrot), *koitareke*, (quail), *weka* (wood-hen), *kaakaa* (brown parrot), *kautuku* (white heron), *huia* (*Heteralocha*), *kereru* (pigeon), *tuii* (parson-bird), *pukeko* (swamp-hen), *parera* (duck), *whio* (blue mountain-duck), *kawau* (shag), and *toroa* (albatross)—besides the various petrels (?) *taiko*, *toanui*, *tiitii*, and *oi*; some of those charms being also of great antiquity, and yet there is none for capturing the *Moa*! This alone has ever been to me an unanswerable argument.

6. In travelling in the interior of this North Island—largely I may say—more than forty years back, I have often had pointed out to me the old land-marks of the game preserves of the ancient Maori, particularly of the ground game—as quail, *kiwi*, *kaakaapoo* (ground-parrot), and *weka*; and the mountain-passes where, in the breeding-season, the *tiitii* (petrel) was taken in a foggy night by firelight; and also the cliffs on rivers which were smoked and scaled for the fat young of the *kawau* (shag) ere they were able to fly; even then, at that time, some of those birds had become extinct (as, notably, the quail and ground-parrot), the young men had never seen them, but the old ones had, and caught and eaten them too, in great plenty; and [92] while they all knew them well by description and oft-told tale, there was nothing whatever known or rehearsed of the habitats of the colossal *Moa*, save the mythical dwelling of the only one on the top of the high mountain Whakapunake!

7. Further still, I think some notice, however slight, should be taken of the great predilection of the ancient Maori towards making pets of wild animals, even including those of the most extraordinary and bizarre kinds, as we may see in their ancient legends of "Kae and the Pet Whale of Tinirau,"<sup>418</sup> and of "The Killing of Rataore," the monstrous Saurian pet of the chief Tangaroamihi.<sup>419</sup> Those stories, however, are both very old and almost prehistorical. Then we have the account of the tame lizard pet of the chief Kahungunu, named Pohokura, which was carried by him from Taputeranga, in Hawke's Bay, to Te Awarua, on the western flank of the Ruahine mountain-range, near the head of the Rangitikei river (about twenty-one generations back), and got loose there, and was not recovered. This lizard pet is still believed by the old Maoris to be dwelling in those lonely mountain forests! Captain Cook and other early visitors tell us how very much the New Zealanders were addicted to pet animals; and, in my own time, I have known of their pet indigenous birds—parrots, paradise ducks, *tuiis*, *ngoiros* and *karoros* (two gulls), *huias*, and *kautukus* (those two last being kept solely for their long tail and wing-

feathers). They also formerly petted extremely, and made great fuss over, the then newly introduced animals, as pigs, dogs, cats, and goats.<sup>420</sup> The *tuii* (or parsonbird), which was a great imitator and dearly prized by the ancient Maoris, was even taught a song,<sup>421</sup> which it spoke tolerably well; of such first-rate talking specimens, however, I have only seen two, and those more than forty years ago. Here again, reviewing the past relative to pet animals, [93] one is led to enquire,—Why, seeing we have such a long line of testimony from the earliest times as to pets among this people, why is it there is nothing said or handed down concerning the *Moa*?<sup>422</sup>

8. Lastly, there remain to be considered the several usages, or meanings, of this word: —*Moa*, in the Maori language—exclusive of the term as applied to the extinct bird, or rather (by the old Maoris) to its fossil bones; those may thus be classed:—1. Simply as a common noun for other things. 2. (still in its simple form) as an abbreviation of the proper names of other things, or of states of nature, or of persons. 3. As a name for places, and for men of the olden time, having also a word either prefixed or suffixed. 4. As a compound word used for names of things. 5. As reduplicated, and also with the causative particle prefixed.

(1.) The word *Moa* is also used for—1. That peculiar kind of boring instrument or drill<sup>423</sup> with which the old Maoris quickly bored the hardest substances known to them, as the green jade-stone, the thick part of a common black bottle, etc. (this little instrument was also by some tribes called a *pirori*); 2. For a raised plot, or long ridge for cultivation in a garden or plantation (a northern word); 3. For a coarse-growing sea-side grass (*Spinifex hirsutus*), which is also called *turikakoa*,<sup>424</sup> though this last term more properly belongs to its globular involucrate heads of female flowers, from the old use made of them; 4. For a certain kind of stone; or, for a layer or stratum of stone.

420 WC: It was in 1841 that I first visited the Urewera tribes in the interior, at Ruatahuna and Te Whaiti, near the head of the Whakatane river; and it was on this visit that I saw there (at Mangatepa) the most monstrous goat that I ever beheld! in bulk it was more like a young steer with prodigious flat horns, and was very mischievous. I saw it knock down sprawling big strong Maoris! who, however, generally gave it a wide berth, and so kept aloof. Inside of the fenced pa, or village, it was a perfect pest; for being *tapu* (i.e., bearing the name of some one of their deceased chiefs), it must not be touched! This ancient custom of the old Maoris of naming their pets after some deceased relation, always insured both its safety (with the tribe) and its being tolerably well cared for; and if the said pet were at all viciously inclined it was sure to become worse through overindulgence! I confess I was afraid of that quadruped, and for a long while could not believe it to be a goat! The Maoris, some years before, had obtained it from a ship on the East Coast.

421 WC: The song which was taught this bird is in Prof. Lee's "New Zealand Grammar" p. 109; in its present state it is very imperfect.

422 WC: See infra, p. 96.

423 WC: See "Trans. N.Z. Inst." Vol. I, "Essay on the Maori Races," p. 15 of Essay; and Cook's Voyages, 1st Voy., Vol. III., p. 464.

424 WC: The term "turikakoa,"—lit. glad, or nimble knees—arises from the use formerly made of this globular head of flowers when travelling by the sea-side, in going before the wind over sandy beaches, or flats, when the tide is low; one, or more, of them were gathered and pursued with agility and merriment! such a simple device has often served to beguile many a wearisome journey on foot, with me and my party.

418 WC: "Polynesian Mythology," p. 90.

419 WC: "Trans. N.Z. Inst." Vol. XL., p. 100.

(2.) As an abbreviation; mostly, however, in poetry, and in colloquial language: *e.g.* —

1. "Horahia mai ano kia takoto i te aio  
Moa' i rokiroki."<sup>425</sup>

(speaking of a very great calm).

2. For a person: —

"Hua atu, e Moa,  
Ka wareware ano  
Ka' te hapai mai."<sup>426</sup> [94]

Here, however, this *may* be the full name; though I doubt it.

(3.) 1. As names of *places*:—*e.g.*,

"Te Moa-kai-hau. (See Legends and Proverbs, *ante*).

"Te Kaki-o-te-moa = the neck of the Moa,

\*Pukumoa = belly, or bowels (of the) Moa.

Papamoa = *Moa* flat; also, *Spinifex* flat.

Taramoa = *Moa*'s spur; also, Bramble (*Rubus australis*).

\*Taramoa rahi = spur of the big Moa.

\*Hauturu moanui = Hauturu big Moa:—*i.e.* possessing, or having had there, a big Moa. (There are several places named Hauturu).

\*Moakura = red, or brownish, Moa.

Rauhamoa = said to be the name also of a bird.

\*Moakatino = big, or fine, Moa or Moas.

\*Otamo = Moa eaten raw.

\*Haraungamoa = Moa, or Moas, observed, or watched, or sought; or, the spot where the skin of a Moa was merely grazed, and it got off.

\*Tarawamo = stand, or stage, erected for hanging dead Moa.

\*Moawhiti = startled Moa, or doubling Moa.

\*Moawhanganui = Moa long waited for.

\*Moawhangaiti = Moa briefly waited for.

\*Moarahi = big Moa.

Moawhang = hoarse-sounding Moa.

2. As names of *persons*:—*e.g.*,

\*Tawakeheimoa—this may mean, Tawake able to meet a Moa; or, Tawake for, or to be at, the Moa; or Tawake to yoke (*i.e.* hang, or put, a band, or rope around the neck of) a Moa.

\*Te Kahureremoa—this may mean, the garment which fell off, or was thrown aside in fleeing from a Moa; or the garment of the person who ran on to, or over, a bed in a food cultivation (an offence); or the garment which was blown on to it.

Rongoiamoa,—the name of one of the men who is said, according to some legends, to have brought the *kumara* (sweet potatoe) to New Zealand. I have great doubts,

however, of the termination of the word being derived from the animal *Moa*; it may rather be taken as *amo*—carried on the shoulders; although the passive of that verb (*amo*) generally has the termination *kia*, sometimes *wia*; should it prove to have been derived from the *Moa*, then of course, it shows its high antiquity.

(Those three proper names are mentioned early in their history, and are all found in the two legends of Hinemoa, and of Te Kahureremoa; all three might also have been originally the names of ancestors in the long past!) [95]

\*Hinetemoa,—derived like Hinemoa (*ante*) but having a different meaning.<sup>427</sup>

\*Te Awheramo, —this may mean, to surround a Moa or Moas, through going behind; or, to relate, or point out, the precise place where a Moa or Moas had been seen.

Raumo = Moa's feather: also, a variety of New Zealand flax (*Phormium*): also, a blade of grass (*Spinifex*).

Himoa = ? to fish with a hook and line having a bit of Moa's bone (fossil) attached as a lure—as the Maoris formerly did at the East Cape.

Karamoa,—this may mean the same as Taramoa; the *k* being substituted for *t*, which is sometimes done.

(N.B.—Those preceding names of persons and of places have been obtained from all parts of the North Island.)

(4.) As a compound word for names of things, etc.; *e.g.*:

Raumo,<sup>428</sup> ) names of 3 varieties

Kauhangaamo, ) of New Zealand Flax

Karuamo, ) (*Phormium*).

Hinamoa—a grub in wood, eating and making it rotten, and yet having a fair outside.

Rauhamoa—a large bird.

Taramoa, ) Bramble  
Tataromoa, ) (*Rubus australis*).

427 WC: Hinemoea, a lady who lived eleven generations back (and an ancestress of Henare Toomoana, M.H.R.), was the wife of the chief Hikawera, and mother of Te Whatuapiti, from whom the sub-tribe of Ngatitewhatuapiti, residing at Patangata and Waipukurau in Hawke's Bay, are descended. On my formerly enquiring of the old chiefs of that tribe, why she obtained that name? the reply was: To show her high rank; she being the daughter of a great chief and of a great lady; hence, Hine—which was joined to that of the one great majestic Moa dwelling on the mountain Whakapunake, there being no other, so—Hinetemoa!!

428 WC: Raumo, being the name for a variety of New Zealand Flax (*Phormium*), found on the West Coast (unknown by sight to me), and also a name for the leaves of the sea-side grass *Spinifex hirsutus*, a question here arises: (1) is the glaucous green *Spinifex* similar in hue to the said variety of *Phormium*—and, if so, (2) could the extinct bird Moa have had plumage of a similar colour in the eye of the old Maoris? (3) the hairy waving flacid and closely growing *Spinifex* might also have carried a resemblance to the coarse body-feathers of the Moa. From strict etymological analogy, I should say, there must have been something in connection with the Moa which gave their names to those two plants; such, too, being in keeping with the genius of the ancient Maoris—as we may see (for instance) in the plant Rauhuia = the plume of the Huia (*Linum monogynum*), just because it bears its numerous white flowers at the tips of its branches, so reminding the old Maori of the white-tipped feathers of the Huia (*Heteralocha gouldi*).

Tautauamo—a dispute about a piece of land or bed (*moa*) in a cultivation; a quarrel between a few of the same tribe; a private quarrel. [96]

Moai = peaceful, quiet—as the land in time of peace.

"Maimoa (*v.* and *n.*) = a decoy-bird—as a tame parrot, kept solely for that purpose; to decoy by means of a tame bird, or bait.

This is another highly peculiar word, deserving of notice. The term is composed of two words, *mai* = hither, towards, hitherwards; and *moa* = the name of the extinct animal. Is it possible that this word is derived from its very old original use as a term for the decoy for the living Moa? Nothing could have better expressed it. *Maimoa* = (come) hither Moa; or the means (whatever that originally was) of making the Moa to come towards its hunter or his snares, or the better to secure it.

Some forty years ago I found the word largely and comprehensively in use among the scattered Urewera tribes in the mountainous interior; it is also a general word.

\*Taniwha-moawhango = a monster having a hollow cry like a hoarse Moa; or, a monster-like Moa with a deep, hoarse, grating cry.

Another very peculiar proper name, a relic of the olden time, carrying almost its own interpretation! At all events I can get no more. I have found only *one* old chief who had ever heard of the word, and that in his boyhood, but who could not explain it, save that that was the name of the creature, which was much feared (superstitiously). It is said that its hoarse, repulsive cry was heard always beneath in the earth (not unlikely some subterranean noise caused by volcanic action). Curiously enough, there is a river in the Patea country (interior) named Moawhango<sup>429</sup> (= hoarse-sounding Moa). This river runs in some places very deep below in the earth far beyond the light of day, and there, perhaps, may have a hoarse, hollow murmuring. Thirty-five years ago I crossed this river more than once on long poles thrown across the narrow surface chasm; I could not see the water below in looking down through the rift!

(5.) As reduplicated, and also with the causative particle prefixed; *e.g.*:

Moamoa,      ) Small spherical shining mineral  
Hamoamoa,    ) balls, the size of marbles, found in the earth in various places; as (by myself) near Cape Turnagain; perhaps iron pyrites.<sup>430</sup> [97]

Whakamo—*to make up, or raise a plat, or heap of small stones or of earth; to make a raised bed of earth for planting, as in a food cultivation.*

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429 WC: Vide names of places, ante.

430 WC: I cannot resist venturing a remark here on these peculiar terms for those round shining stones: (1) Note the two words; here we have moa reduplicated, meaning, commonly, less than moa (whatever moa may here mean), and, at the same time, having a frequentative tendency; (2), then we have the prefix ha, which means, to resemble, to look like, to remind of; can there be any allusion here to the metallic shining eyes, the ocellated appearance, of that one feather, which Hawea said was a feather of the Moa, and which closely resembled a peacock's tail-feather? Moa, too, as we have seen, seems to be a kind of generic term for something round, spherical—*e.g.*, the round twirling drill, and the round flowering-headed Spinifex.

Whakamaimoa—to show kindness to rough, undeserving people; to make tame, civil.

Those several names of places, persons, and things, selected from a large number, would of themselves prove of great service to us in our researches if they could be depended on; as showing that, in some indefinite period in the far past, they applied to the animal in question. But in almost every case they may mean (or originally have meant) something else; for some of them may have had reference to a man, or men, named Moa; others (as Papamoa, Raumoa) to the sea-side grass called Moa, etc.

It was a common custom with the Maoris (and it is not yet abolished—indeed, it seems of late, during the last 20-25 years, to have been strongly renewed), to name a child after some ancestor of the olden time, which was not infrequently repeated again and again in the course of succeeding generations, as may be found in their genealogical lists of descent—much the same as obtains among us. In some cases, too, the name of *Moa*, when derived from that of a man of ancient times, may have originally been only a part of his name—the beginning, middle, or ending<sup>431</sup> of it, as the case might have been—having subsequently had something else added thereto, as is now still being done by them. Nevertheless I must, in all fairness, allow that it seems to me that such names of places, etc., all Moawhiti, Moarahi, Otamoia, Haraungamoia, etc. (which I have marked with an asterisk in the foregoing list), are derived from the animal in question, *viz.*, the Moa, and that, too, when in a living state. And, if I am right in my deduction, or conjecture, such also serves to carry the age in which the Moa lived very far back indeed in the history of the Maori; as the names of *places* were before anything else with them, and were also never changed.<sup>432</sup> And this will the more strongly appear to be the case, for, as [98] we have seen, apart from such we have no traces of the animal in question (save fragmentary and mythical ones) left in their language.

#### **Additional Remarks.**

A few other additional remarks I would also offer; gleaned, I may say, by the way we have come in our enquiry: —

1. The very peculiar names (*Rau-o-piopio* and *Kowhakaroro*) repeatedly given by the chief Hawea to that "one Moa's feather" he had seen:—observe (1.) that such is

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431 WC: As obtains also very commonly in modern names among the Maoris, e.g.: Maa (for Makarini = MacLean), Mue (for Hamuera = Samuel), Neho (for Koreneho = Colenso), Tiu (for Matiu = Matthew), Pao (for Paora = Paul), Nahi (for Natanahiria = Nathaniel).

432 WC: I may here give the translation of a letter from some aged chiefs on the East Coast, in answer to my repeated enquiries. It will also serve as a fair sample of many received on the same subject: —

"Friend Colenso, greeting to thee, etc. Listen to what we have to say in answer to thy many questions. We are not sufficient (or able) to reply. The reason of our inability is simply this, that our ancestors themselves did not know, and so that want of knowledge has come down to and is with us of the present day. It is so just because there was and is but one meaning of those several words [names of places], *viz.*: the name of the place itself. We know the bones of the Moa from old time; but the reason why such a name (of Moa or relating to a Moa) was anciently given to streams, to lands, to persons, to trees, to plants, this we don't know, we cannot explain; and herein is our great ignorance."

not that of the bird itself; it is not here called a Rau (or Piki) Moa = the plume or fine feather of the Moa; while such is commonly the case with the feathers of other birds which are prized for head decoration,—which are always named after the bird itself; as, Rau (or Piki) huia = the plume or fine feather of the huia,—Rau (or Piki) kotuku = the plume or fine feather of the kotuku (white crane),—Rau parera = the plume of the duck, etc., etc. (2.) That the term *Rau-o-piopio* would properly mean—feather, or plume, of (the bird) Piopio; and there is a bird of that name known to the Maoris; or, rather, I should say, there are three! all widely differing from each other :—(a.) the New Zealand thrush (*Turnagra crassirostris*);—(b.) a small reddish bird;—(c.) a bird (unknown to me) said to have been a kind of ground game and largely used as food, but now extinct!<sup>433</sup> Of these three birds I only know the first one, having both seen and heard it in the forests on the west side of the Ruahine mountain range, although it is a South Island bird, and but rarely met with so far north as Hawke's Bay; it is also called by the Maoris *korokio*, and *koropio*; by this last name it is best known in these parts. As the first of these three birds (the thrush) is not unfrequently mentioned by the Maoris in their songs, owing to its cry (*piopio*), and also in their proverbs, I have made special enquiry, whether the said “one feather” bearing its name could have belonged to it; but met with a direct negative. Neither have I succeeded any better in all my endeavours to learn why that one feather should have obtained those two long names. (3.) The other term for that one feather, “*Kowhakaroro*,” has, curiously enough, a peculiar meaning, that is etymologically,—a reference to another bird, the *karoro*, or large white and brown gull (*i.e.*, it may have had some such meaning). One meaning of the word *kowha* is,—favourable consideration, kind gracious words or dealings, a kind parting word, regret, a gift, *souvenir*, etc. And the *karoro*, with its long and melancholy cry, is also mentioned in their legends, as causing them, the old Maoris of ancient [99] days, to lament when they heard it;<sup>434</sup> so that I can well perceive how those two words put together would form an appropriate name, among such a poetical and imaginative race, for such a feather only so used, *viz.*, the last melancholy parting gift of the *karoro*. But still this may be fanciful on my part.

2. That “one feather” is also plainly and fully described by Hawea as closely resembling the tail-feather of the peacock. Now, here three things are observable :—(1.) That such is not the case with any Struthious bird known, especially with the remaining New Zealand one, the kiwi (*Apteryx*, sp.); (2.) that, curiously enough, a similar glowing description is also given of another extinct New Zealand bird of large size, *viz.*, the *hokioi*; which bird, however, had been really seen by the old Maoris of the generation just passed away, and by them particularly described. It was said, by an intelligent aged Maori, seven to eight years ago, when writing of this bird:—“Our forefathers saw that bird of former days, the *hokioi*; we of this generation have never seen it, for it has become extinct, but only of late. According to what our

433 WC: Nearly all that I know of this bird is from a letter from a Maori chief, written in 1878, in which he says:—“The foreigner introduced the dog and the cat, which completely destroyed the food-birds of this island,—the weka, the kiwi, the kakaapoo, the piopio, and many other birds.”

434 WC: It was the hearing the melancholy wailing of the *karoro* flying in the Upper Rangitikei River, that caused the chief Kahungunu to burst out into his passionate lament. (Vide, p. 91, ante.)

forefathers have handed down to us, the *hokioi* was a very strong bird, especially on the wing; it was very much bigger and stronger than the hawk, with which, however, it was always at feud. Its habitat was on the mountains, never in the lowlands. It was seen by our fathers when flying, on its days of coming down, or flying abroad; but this was not every day, because its home was in the mountains. Its appearance or colour was red and black and white, having plenty of feathers; some of which were also bright yellow, like the colour of the flowers of the *kowhai* tree (*Edwardsia*), and some were glistening green, like those of the small parroquet; it had also a beautiful tuft, or plume of feathers on its head. It was a very big bird indeed.” (3.) If that “one feather” was not a stray feather from the recently extinct bird *hokioi*, which also lived away in the mountains,<sup>435</sup>—it may have been a feather from a Peacock, brought hither by those whaling ships from Sydney or Tasmania, which came here often early in this century to refit, etc., and who would have quickly known how very much handsome feathers were in request, both in New Zealand and in the other South Sea Islands; of which, indeed, the barter had been commenced in the very time of Cook,<sup>436</sup> and of which those who came after him in those seas, of course knew.

Here I may also remark, that the old Maoris who first saw the Europeans, as a rule, named the new and strange things (especially animals) in [100] accordance with their own ideas respecting them;<sup>437</sup> hence they called the horse, the *kuri* (or *kararehe*) *waha-tangata* = the dog (*or beast*) which carries a man, and this was the name by which the horse was long known in the Bay of Islands, where it was first introduced; so with the sheep which was called *pirikahu* (from its wool), and the cat = *ngeru*; while the fowls, which were given by Cook to the old chief who boarded his ship off Blackhead, on the East Coast,<sup>438</sup> were called by them (in my time) *koitareke pakeha* = foreign quail.

3. In the proverbs I have quoted concerning the Moa, the first one runs,<sup>439</sup> “*He koromiko te wahie i taona ai te Moa*;” and I have there said that the verb used in the proverb for cooking, *tao* (*taona*, pass.), is that which points out the particular mode, *viz.*, baking in a ground oven; but here it may be observed, that the common verb for burning, *tahu* (*tahuna*, pass.), is of similar short pronunciation, and is also sometimes used for cooking, and such may have been originally here intended,<sup>440</sup> as we find another analogous

435 WC: Vide Hawea's statement of that “one feather” having been found in the mountain district, blown down by the wind to the branches of a white pine tree. (Ante, p. 83).

436 WC: Vide “Cook's Voyages,” second voyage, Vol. I., p. 318; and in other places.

437 WC: Nor is this to be at all wondered at, for the Greeks and the Romans did just the same thing to new animals; hence the Greeks named the animal from the African rivers, Hippopotamus (river-horse), and the Romans the Elephant, Lucas bos (the Lucanian ox), because they were first seen by them in Lucania. (Pliny, Nat. Hist., lib. viii. c. 6: Varro, de Ling. Lat.) I am led to mention this here in a note, because some of our “superior race” colonists have ridiculed the Maoris for so doing, and in doing so have displayed their own ignorance!

438 WC: Vide “Trans. N.Z. Inst.” Vol. X., p. 146.

439 WC: Page 84, ante.

440 WC: It should not be overlooked, that it is only of late years the Maori Proverbs, Songs, etc. have been reduced to writing, so that it would be very easy for a writer to make such a slight error as *taona* for *tahuna*, especially if he were a young person writing

verb for roasting, scorching, *tunu* (*tunua*, pass.), is also used in those few songs<sup>441</sup> in which the Moa is mentioned; this supposition is further strengthened by what is uniformly said in their legends of its sudden disappearance by fire. To this I may also add, that frequently in my early travelling in this country (some 45-46 years ago), my Maori companions, on nearing a *pa* or village among their own tribe (especially if emerging from a forest near), would call out, “*Tahuna he kai*” and “*Tahuna he kai ma matou!*” instead of “*Taona he kai*,” etc., although this latter was intended (Bake some food for us); as the firewood in the ground oven must be first burnt (*tahu*) before that the food could be baked therein (*tao*).

### **Conclusion.**

It will, I think, be seen that I have written exhaustively on this subject, at least I have endeavoured to do so, and that for two reasons: —

1. I wished to tell all the little I knew—all I had subsequently gleaned since first publishing about the Moa in 1842; in hopes of others hereafter following up the quest. [101]
2. I have, in so doing, finished my work; I shall not again write on this topic.

For my own part I am, as I have long been, satisfied. My own fresh labours in this direction have only served the more fully to confirm me in my old views<sup>442</sup> as to the very great antiquity of the living Moa in this North Island of New Zealand.

Few, very few, will be fully able to comprehend the immense amount of labour this enquiry has cost me; the amount of time, writing, and patient research consumed would be almost incredible, especially in my seeking after ancient names of places and of persons containing the term *Moa*,—and what a very small result! I have often been led to think of the amount of toil spent in obtaining two dishes for the banquet of Heliogabalus, *viz.*: of ostriches’ and nightingales’ tongues! and yet all devoured in an hour.

In fine, the conclusion I have come to is this: —

1. That the bird *Moa* (some of those of its genera and species) was really known to the ancient Maori.
2. That such happened very long ago, in almost pre-historical times; long *before* the beginning of their genealogical descents of tribes, which, as we know, extend back for more than twenty-five generations.
3. That this conclusion is the only logical deduction from all that I have been able to gather; whether myth, legend, proverb, song, or the etymological rendering of proper names of places, persons, etc.

I will conclude my paper in the highly suitable words of Tacitus, when writing on another celebrated bird of great antiquity, which had given him and other philosophers before him an immense amount of labour—I mean the

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down old and almost obsolete sayings from the dictation of aged men.

441 WC: Vide page 87, ante.

442 WC: Vide Trans. N.Z. Inst., Vol. I., “Essay on the Maori Races,” p. 58 of Essay.

*Phœnix*. Tacitus says: “In the consulship of Paulus Fabius and Lucius Vitellius,—after a long series of ages, the bird called the Phœnix arrived in Egypt, and furnished the most learned of the natives and Greeks with occasion for much speculation concerning that marvel.... But the accounts of antiquity are enveloped in doubt and obscurity ... whence some have believed that the present was a spurious Phœnix ... . These accounts are not entitled to unqualified credit, and their uncertainty is by the admixture of matter palpably fabulous: but that this bird has been at some time seen in Egypt, is not questioned.”<sup>443</sup>

### **APPENDIX II.**

#### *1. Of Dr. Ernest Dieffenbach’s opinion on the Moa.*

Among the very few early scientific writers on New Zealand, who had themselves travelled in and partially explored the country, I may here [102] mention Dr. E. Dieffenbach, the Naturalist to the New Zealand Company. This gentleman was here in the years 1839-1841, and I had the pleasure of being acquainted with him while he stayed in the Bay of Islands, where, for some time, he lived next door to me. He saw and “overhauled” all my specimens (even then rich in shells, and insects, and ferns, and in geological samples), and many conversations we had respecting the *Moa*. In his work, in two volumes, on “New Zealand,” he twice mentions the *Moa*, but only in a very slight way; in fact, he, then, could not say any more, for he did not himself collect a single *Moa* bone, although he was industrious in obtaining all kinds of natural specimens. He saw, however, what few broken bones I had at that time, obtained from near the East Cape through the Christian Maori teachers, who had been sent there by us after our early visit made there in January, 1838. Dr. Dieffenbach thus alludes to the *Moa* in his work:—“The natives (of Taranaki) could not understand what induced me to ascend Mount Egmont; they tried much to dissuade me from the attempt, by saying that the mountain was *tapu*;<sup>444</sup> that there were *ngarara* (crocodiles) on it, which would undoubtedly eat me; the mysterious bird *Moa*, of which I shall say more hereafter, was also said to exist there. But I answered that I was not afraid of those creations of their lively imagination,” etc. And again, in writing of “special changes in New Zealand,” he says:—“If a geological cause, such for instance as a diminution of the size of the island, attended by an alteration of climate and a diminution in the means of subsistence, has contributed to the extinction of the struthious *Moa* in New Zealand, and of the Dodo in the Mauritius, it is no less sure that, since New Zealand began to be inhabited by its aboriginal race, the agency of man has effected a part of that eternal fluctuation in the organic world, the knowledge of which has been one of the most important results of modern science.”<sup>445</sup> And this is all he says! Some time after, however (in 1845), we find him reading a paper “On the Geology of New Zealand,” before “the British Association for the Advancement of Science,”<sup>446</sup> in which he says:—“That he has examined into all the traditions respecting the existence of the *Moa*, or great bird of New Zealand, and concludes that it has never

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443 WC: Annals, lib. VI., c. 28.

444 WC: Lit., strictly forbidden, or preserved.

445 WC: “Travels in New Zealand,” Vol. I., pp. 140 and 417.

446 WC: At their fifteenth meeting, held June 21, 1845.

been seen alive by any natives of New Zealand; the rivers in which its bones have been found flow between banks from thirty to sixty feet high, and, as they are continually changing their course, the remains of the *Moa* may have been derived from tertiary fluviatile strata.<sup>447</sup> (Of course I cannot help thinking the Doctor was indebted to my published paper on the *Moa* for this information, as it is [103] given in almost my very words; nevertheless, if not wholly original on his part, I bring Dr. Dieffenbach forward as a valuable witness, and a supporter of my early published opinions).

2. *Of the later opinions of Sir George Grey and of Mr. Weld (with others of lesser note), stated, or adduced, in some of the past volumes of the "Transactions of the New Zealand Institute."*

Having read them, I cannot allow this (my last!) opportunity to pass without briefly noticing them. Sir G. Grey is stated to have said that he had heard from the Maoris of their general knowledge of the *Moa*, and of its recent extinction, in common with some other birds; and Mr. Weld relates of a Maori informing him how the bird kicked like a horse, etc., etc. *To me* all this is easy enough. From January, 1838 (when I first heard of the *Moa*), down to 1842, and later, no man could possibly have done more than I did in my quest after it, and no man could have had better opportunities; by enquiry everywhere, personally, in travelling (and I, then, travelled *largely*); by letters to a distance, in New Zealand, to both Europeans and Maoris; and by Maoris (my own lads), returning to their homes in all parts from our Mission Stations at the north;<sup>448</sup> and through many others of them whom we had redeemed from slavery and restored to their homes and tribes, and with whom I subsequently long corresponded; and, I again assert, that it was through me that the Maoris generally got to know of the *Moa* having been a *real* (or common) *bird*. I showed them, repeatedly, at the station, the plates in Rees' Cyclopaedia,<sup>449</sup> containing all the *Struthious* birds, and told them of their habits, etc., and of my opinion of the extinct *Moa*; that information was carried almost everywhere (with, no doubt, many additions)—and that information, together with simple leading questions on the parts of the enquirers (especially when put by the Governor of the Colony, or by any superior,—which, according to Maori etiquette, would not be negatived even if wrong)<sup>450</sup>—and, also, with but a small knowledge of the Maori tongue on the part of the Europeans, fully explain all *to me*, and that very satisfactorily. Here, I cannot help remarking, in order to make things clear, that words would fail to show to the colonist of to-day—or (say) of the last thirty to thirty-five years—how highly different it was with the Maori before this Colony was established, and for a few years after; I mean, particularly, with reference to the making of those enquiries. They were carried everywhere throughout the length and breadth of the North Island; they were the constant theme of conversation among the Maoris, who then had little of a novel nature to [104] talk over,—increased, from the fact of rewards being offered for bones, feathers (if any), and for information.

447 WC: From the "Tasmanian Journal of Natural Science," Vol. II., p. 451.

448 WC: Vide Trans. N.Z. Inst., Vol. XI., p. 110. t

449 WC: Vol. V., Natural History, plates.

450 WC: Vide Trans. N.Z. Inst., Vol. I., p. 49 of "Essay on the Maori Races."

Mr. Travers' paper (*compilation*)<sup>451</sup> I should not care to notice separately, were it not for a letter contained therein, written by my good friend Mr. John White. (I could only wish, in this as in some other matters, that Mr. Travers would write of what he himself knows of things). Some portions of Mr. White's letter astonish me. For Mr. White had lived at the North among the Ngapuhi tribes many years (just as I had), and to that information said to be obtained from them he adds more—even to a *Moa* which was "killed" *here* in modern times "near to Waipukurau"<sup>452</sup> where I have also been living nearly forty years!! and where I had conversed with those old Maoris who saw Cook, but who knew nothing of the *Moa!* (I fear this *Moa* "killed here near to Waipukurau" was much like mine, which lived on Whakapunake, or that one mentioned by Dr. Dieffenbach as said to be living on Mount Egmont!) Yet, not only this last statement, but nearly all that Mr. White says is equally new to me. Now I recollect when Mr. John White came to New Zealand (a boy); it must have taken him some time to learn the language—before all events he could talk clearly about such a highly recondite subject as the *Moa*, not being then particularly drawn thereto—and when talked of, I presume, such was only very occasionally, and then but slightly; whereas with me and others it was a matter of deep, extensive, and persistent enquiry extending over years. Remembering, also, how Dr. Dieffenbach and others<sup>453</sup> laboured to glean something about the *Moa* in those same northern [105] parts before that Mr. White knew Maori,—I confess I feel strange. The only ready solution to my mind is that Mr. White in this matter has been half deceived; that is, he heard something long ago (just as Sir G. Grey and others heard it), and the rest has been in the course of many years evolved therefrom or added thereto, or both.

3. *Of the Rev. R. Taylor's statement, which he calls "An Account of the First Discovery of Moa Remains."*<sup>454</sup>

I have often *of late* read and considered with no small astonishment, what Mr. Taylor has here stated. I could enter into it fully, dissect it, and say a good deal upon it; but, as I

451 WC: Vide Trans. N.Z. Inst., Vol. VIII., p. 58.

452 WC: Vide my genealogical note on Hinetemoa, p. 95, ante.

453 WC: Here I should briefly mention a few of those scientific gentlemen who were also in the Bay of Islands and its neighbourhood during those years (omitting mere passing visitors), and who all through their interpreters zealously sought after any remains of the *Moa*, now especially coming into prominence; viz., the Antarctic Expedition, under Sir J.C. Ross, R.N., with his several able naturalists (including Sir J.D. Hooker), who wintered there; the United States Exploring Expedition, under Commander Wilkes, U.S.N.; the several French ships of war and discovery, under Admiral Dumont D'Urville, Captain Cecille, Captain L'Eveque, and others; and many other private gentlemen, as Mr. Busby, Mr. Cunningham, the Rev. W.C. Cotton, and Dr. Sinclair,—but whose gains were nil! Through my residing in the Bay and close to the anchorage, I saw and knew them all, and of course had much conversation with them about the *Moa*, and its history. And last, though not least, there were the many "stores," or traders settled on shore in various parts of the Bay, who had very extensive dealings not only with the shipping but with the Maoris; who, it is further observed, were now everywhere breaking soil in seeking after the new commercial product, Kauri resin. Those traders would have been sure to have picked up readily any specimens of *Moa* remains, or any fragments of its past history,—but they, too, got none!

454 WC: Trans. N.Z. Inst., Vol. V., Art. III.

have hitherto kept myself from doing so, I will still forbear. This much, however, I deem it right to say (bearing in mind the adage: “*De mortuis nil nisi bonum,*” to which I would add—*vel verum*),<sup>455</sup>—1. If Mr. Taylor really made those early discoveries and in that way, why did he not make them known? Like myself, he, too, had been early elected a member of the “Tasmanian Society,” both of us together in 1841, with the Rev. W. Williams, and other residents in New Zealand;<sup>456</sup> soon after which Mr. Taylor wrote a paper on the “Bulrush Caterpillar of New Zealand” (*Cordiceps robertsii*), which he sent to Tasmania, and it was published in 1842, in the *first* volume of the “Tasmanian Journal of Natural Science;”<sup>457</sup> while mine on the *Moa*, though written early in 1842, was not published in that “Journal” until 1843, and that in the *second* volume: my first papers being on some of our New Zealand Ferns. 2. Mr. Taylor says, “The chief readily gave me the (fragment of a) bone for a little tobacco, and I afterwards sent it to Professor Owen, by Sir Everard Home; this took place in 1839.... I think I may justly claim to be the first discoverer of the *Moa*.<sup>458</sup> But in Professor Owen’s paper on the *Moa*, he gives *verbatim* Mr. Taylor’s letter to him, which he received through Sir Everard Home; it is dated “Whanganui, February 14, 1844” (five years after!) and in it, Mr. Taylor, in writing of his *single* visit to the East Cape with the Rev. W. Williams in 1839, on his first arrival in New Zealand, says, (after) mentioning his discovery of *Moa* remains at Whaingaihu — Whangaehu, “I have found the bones of the *Moa* in this stratum, not only in other parts of the Western, but also on the Eastern Coast and at Poverty Bay; from whence in 1839 I procured a toe of this [106] bird.”<sup>459</sup> This, however, is widely different, both as to *date* (of his first sending to Professor Owen), and also as to the extent of his “*find*” at the East Cape. He only specifies the so-called, “*toe*,” which is quite correct, as I had myself stated in my early published paper;<sup>460</sup> he says nothing here, however, of “the fragment of bone;” nevertheless, he goes much further actually saying that “he had found bones in that same kind of stratum at East Cape and at Poverty Bay!” All I can say is: If so, why did he not make them known? Mr. Taylor was well-known not to be at all backward in writing of every thing; and while at the North he had plenty of time to call his own. In this same letter to Professor Owen, (*supra*), Mr. Taylor goes on to say: “The Kakapo or Tarepo is about the size of a

455 No one should speak ill of the dead.

456 WC: Vide “Tasmanian Journal,” published lists of members.

457 WC: In that paper Mr. Taylor says: “The Aweto (!)—*Cordiceps*—” is only found at the root of one particular tree, the Rata, the female Pohutukawa. .... These curious plants are far from being uncommon. The natives eat them when fresh (!) The seeds of the fungus are nourished by the warmth of the insect,” etc., etc.—Tasmanian Journal, Vol. 1., p. 307.

458 WC: Trans. N.Z. Inst., Vol. V., p. 98.

459 WC: “Zoological Transactions,” Vol. III., part 4, p. 327.

460 WC: Vide I. “Tasmanian Journal,” Vol. II., p. 85; and Dr. Dieffenbach also saw it. At that time, and for several years before and after, I was residing at Paihia in the Bay of Islands, while Mr. Taylor’s home was at the Waimate, then a long day’s journey inland. I saw him on his return from the East Cape as he landed at Paihia, and with him tried to match his “*toe*” (or claw) to my few bones of the *Moa*, but it would not fit; at that time Mr. Taylor had none, neither had Mr. Williams. The so-called “*toe*,” which was very black and solid, resembled a bit of water-worn and rolled Obsidian more than anything else; yet it might have been a claw; but, if so, greatly worn, and with dull and rounded edges. I only saw it once and for a short time.

turkey, and from its habits, nature, and other circumstances, *seems so closely to resemble the Dodo, as to lead me to suppose it is the same,*” etc. 3. I well remember Mr. Taylor (with whom I was for some time on the most intimate terms of friendship),<sup>461</sup> complimenting me highly on his receiving that part of the “Tasmanian Journal of Science” containing my paper on the *Moa*. [Those parts came regularly through my hands for distribution to the members residing in New Zealand, owing to my living near to the anchorage.] Whenever Mr. Taylor came from the Waimate to the Bay, he always called, and saw repeatedly all my collections, from which he obtained many specimens. Briefly reviewing the past, I cannot but conclude that Mr. Taylor’s memory must have failed him when he gave his *last* statement at Wellington, in 1872, in which, I think, many incidents of the past relative to the *Moa*, are jumbled together as to date and sequence; which, also, from the Editor’s note attached, seems to have been done rather hurriedly. *At present I make no further remark concerning the many strange (?) erroneous) statements with which his published works on New Zealand abound; on a future occasion, however, I may have to notice some of them.*

4. *Of a remark made by Mr. Vaux, in his paper, “On the probable origin of the Maori race.”* [107]

In justice to myself—if not also to Professor Owen and to Mr. Rule—I had intended noticing a statement made by Mr. Vaux in his abovementioned paper, in which he says that “Bishop Williams and the Rev. R. Taylor, in 1839, were the first to discover the remains of the *Moa*;”<sup>462</sup> but, owing to the great length of my paper, I am obliged to omit doing so; merely saying here that *I deny it*. My grounds for so speaking will be found in what I have already written upon it (*supra*). Mr. Vaux, evidently, had not seen my early-published paper on the *Moa*, neither those of Professor Owen, and of Dr. Mantell. There are also other matters of high importance in Mr. Vaux’s paper respecting the Maoris (for which he has mentioned me); to them, I hope to return ere long.

5. *Of sundry early English published scientific testimonies.*

In conclusion, I may be permitted to call attention to the following testimonies in connection with the foregoing; and I do so the more readily because they were all spontaneously given by gentlemen of the highest standing in their respective scientific pursuits, and written, and published, and spoken of publicly (in lectures, etc.) by them at a very early period.

I mean: —

(1.) SIR W.J. HOOKER, K.H., etc., etc., the very eminent Botanist, formerly Director of the Royal Gardens at Kew, who, in the *London Journal of Botany*, for January, 1844, Vol. III., p. 3, mentions approvingly my paper on the *Moa*, and the bones I had sent through him, in 1842, for Professor Owen.

(2.) PROFESSOR OWEN, F.R.S., etc., etc., the eminent Naturalist and Osteologist, who—both in his papers on the *Moa* (*Dinornis*), “*Zoological Transactions*,” Vol. III., part 4, p. 327,—and, also, in his kindly and of his own accord,

461 WC: As a proof of this, see “Tasmanian Journal of Science,” Vol. II., p. 244, for an account of a fine fossil Terebratula (*T. tayloriana*), which I discovered far away in the interior in 1841, and dedicated to him.

462 WC: Trans. N.Z. Inst., Vol. VIII., p. 11.

republishing in the “*Annals and Magazine of Natural History*,” 1844, Vol. XIV., p. 81, my early paper on the *Moa*,—has borne a similar testimony.

(3.) DR. MANTELL, F.R.S., etc., etc., the celebrated Geologist and Osteologist, has also done the same, and that, too, at various times; particularly in his work entitled “*Petrifications and their Teachings*,” pp. 93, 94, and 487; and also in his very able and lucid paper (doubly interesting to us here in New Zealand), “On the Fossil Remains of Birds, collected in New Zealand by Mr. Mantell of Wellington,” published in the “*Quarterly Journal of the Geological Society*,” February, 1848, Vol. IV., pp. 225-241 (*passim*), where Dr. Mantell says:—“I do not deem it necessary to enlarge on the question whether the *Dinornis* and *Palapteryx* still exist in New Zealand; on this point, I would only remark that Mr. Colenso, who was the *first* observer that investigated the nature of the fossil remains with due [108] care and the requisite scientific knowledge (having determined the struthious affinities of the birds to which the bones belonged, and pointed out their remarkable characters, ere any intelligence could have reached him of the result of Professor Owen’s examination of the specimens transmitted to this country), has given, in his masterly paper before quoted, very cogent reasons for the belief that none of the true Moas exist, though it is probable the last of the race were exterminated by the early inhabitants of these islands.” (*Loc. cit.*, p. 235.)

#### ADDENDUM.

NAPIER, October 24, 1879. I was very much surprised this morning, on finding (and that by the merest chance, in looking into the “Index, Vols. I.-VIII.”) that Mr. Stack, of Canterbury, New Zealand, had some time ago written a short paper containing those passages from Sir G. Grey’s “Poetry of the New Zealanders” which I have in this paper adduced respecting the Moa. I had never before this morning seen Mr. Stack’s paper; no doubt this was owing to its being placed in the Appendix at the end of the volume,<sup>463</sup> and to its extreme brevity. However, had I earlier seen it, I could not have accepted his translation of those passages referred to, still less his remarks thereon. New Zealand poetry and legends cannot be rendered by any Maori scholar in the South Island; besides, their myths and legends are not now to be found there in their integrity; indeed, such could not reasonably be expected among such a small remnant of Maoris living isolated among settlers.

#### 1879 Contributions towards a better Knowledge of the Maori Race (continued).<sup>464</sup>

*Transactions of the New Zealand Institute* 12: 108-147.

[Read before the Hawke’s Bay Philosophical Institute, 9th June, 1879.]

—“For I, too, agree with Solon, that ‘I would fain grow old learning many things.’”—PLATO: *Laches*.

463 WC: Trans. N.Z. Inst., Vol. XI., Art. V., p. 77.

464 WC: For Part I. see Vol. XI., Art. V., p. 77.

#### ON THE IDEALITY OF THE ANCIENT NEW ZEALANDER.

##### PART II.—PROVERBS AND PROVERBIAL SAYINGS.

I HAVE long believed that there is much truth in that compendious remark of Lord Bacon, *viz.*, that “the genius, wit, and spirit of a nation are discovered by their proverbs.” It is in them, no doubt, that a philosophical mind will discover a great variety of curious knowledge, particularly when [109] (as in the case of the New Zealanders) the nation has no literature, or, rather, no *written* records and books. It has been deliberately affirmed by a learned modern writer well acquainted with his subject, that there are 20,000 proverbs among the nations of Europe alone. Many of these have been handed down from ancient times; not a few from the Greeks, who also borrowed largely from the Eastern nations. Such proverbs were long confined to oral tradition (just like these of the New Zealanders); for, as it has been truly observed, “Proverbs were before books.” The most ancient, as well as the most refined and civilized of nations, have ever used them, and that effectively. We find them pervading all classes of literature—religious, moral, scientific, historical, domestic, social, and humorous; we find them made use of in the Old Testament from before the beginning of the Hebrew nation; we find their wisest king (with his wise men) compiling a book of *Proverbs*; we find the Great Teacher himself several times using them in his discourses, and after him Paul and Peter—as is recorded in the New Testament—borrowing them, too, from an alien people. And, in more modern times, Shakespeare, John Bunyan, Swift, Walter Scott, and other British standard writers, have also used them to great advantage. We all know what was Lord Chesterfield’s opinion concerning them, *viz.*, “Never to be used by a man of taste or fashion;” and possibly that statement may have served to drive them out of polite conversation—in England, at least; but such was not the Court belief in the reigns of Elizabeth, James, and Charles. The Chinese, the Japanese, and the Hindoos abound in many wise and pithy sayings. The Italians and the Spaniards are still greatly addicted to the use of proverbs, especially the latter; witness Cervantes, the writer of “Don Quixote.” How, indeed, could the famous Governor of Barataria have possibly succeeded without them? Proverbs of all nations in common use are not only “the philosophy of the vulgar,” but they contain fragments of wisdom, they are true to nature, and are suited to the people in general by whom they are used. They reveal to us their ancient ways of thinking, and consequently their manner of acting. I have little doubt that not a few of the mottoes of our old nobility may be well accounted for in this manner—something of note in act or word that originated with, or in the times of, the founder.

To the ancient New Zealanders, however, the great value of their proverbs and proverbial sayings appeared in their oratory, of which they were passionately fond, and in which they excelled. At such times (as I myself have heard them with delight some 40–45 years ago!) their orators, by some well-chosen, some fitting proverb, carried everything before them, winning over their attentive auditory as if they were but one man! In which, no [110] doubt, they were ever largely aided by the very genius and structure of their noble Maori language, it being so highly terse, pregnant with meaning, and abounding in paronomasia<sup>465</sup> and antithesis.<sup>466</sup>

465 Wikipedia: “A pun, or paronomasia, is a form of word play that deliberately exploits ambiguity between similar-sounding words for humorous or rhetorical effect.”

Not a little has been written on the true definition of a proverb. A modern one of Lord John Russell has caused some noise, and obtains with a large number, *viz.*, "The wit of one man and the wisdom of many," but for my part I adhere to the older and more homely definition of Dr. Johnson, *viz.*, "A short sentence frequently repeated by the people; an adage, name, or observation."

I early commenced collecting the old Maori proverbs, as I saw of what great power and use they were in addressing the Maori people, and I have now more than 1200 (perhaps 1400). I have not, however, sought any for several years, and I have good reasons for believing there are not a few irrecoverably lost, and hundreds still unknown to Europeans. Lately I have been going over what I had secured (in part for this paper), and I have been again much struck with their appositeness, propriety, and usefulness, indicative of a high class of thought; though still more struck, in my attempt at classifying them, with their wide range, embracing almost everything objective or subjective that could possibly have entered into the mind of a New Zealander. No doubt not a few of them are of great antiquity, as they refer to the celebrated heroes and exploits of the olden time, of the beginnings of their traditional times; to the legends of their demi-gods, and to animals and plants now and for some time extinct. Here, among these latter, I had long hoped to find something referring to that almost mysterious animal the *Moa*, something as to its size, form, powers, appearance, habits, food, uses, etc., that would have been of real service to us of to-day, but I have sought in vain! True, I have (as I by-and-bye hope to show<sup>467</sup>) obtained *eight* ancient proverbial sayings respecting it, but their very abrupt, primitive, and legendary style, and esoteric or hidden meaning, carry it very far back into the night of history! In this, however, we have but another phase of that same oneness of early testimony of the olden time, which (as I have already observed<sup>468</sup>) we find in their legends and myths and ancient stories; and, as we shall yet find, also in their songs.<sup>469</sup>

I have said that I was much struck in reviewing the very wide range whence the ancient New Zealanders had drawn their proverbial sayings; but there is still another more remarkable and noteworthy feature respecting them, which I wish particularly to bring before you, and which, indeed, is one of the principal reasons for my writing this paper; and that is what [111] you and almost all colonists of to-day could never expect to find; on the contrary, you would, I am inclined to believe, look for the very opposite. It is, the very large number of their proverbs inculcating industry (both of man and woman, chief and slave); their giving undivided attention to the regular planting and harvesting of their crops; in favour of perseverance, patience, and endurance; the preference of peace to war; the praise of hospitality and kindness, of deliberation, counsel, and prudence; sound advice to women and to children—to the young men in the taking a wife, and to young women in taking a husband; their openly exposing (even by name!) the mean and stingy conduct of their own greedy, inhospitable, and unkind chiefs;—also, all cowardly and rash conduct on their part; and against ill-manners, rudeness, and ill-temper; against

laziness, begging, gluttony, slander, grumbling, and lying; the complaining of trifles and of weariness at work or in travelling. I repeat, I can well imagine you would quite expect to hear the contrary to all this. Those sayings of theirs—once "familiar in their mouths as household words"—are strong indications, however, of what the ancient New Zealander really was, and of what good human qualities were prized by him.

Referring again, briefly, to the very wide range of their proverbs, the New Zealanders seem to have drawn largely from Nature,—her various works and operations; clearly indicating that he had been not only a very attentive natural observer, but well able to make correct deductions; for, in addition to those already mentioned, he had proverbs drawn from the regular appearances of the stars, planets, and constellations,—from the varied seasons of the year,—from the several winds and meteors,—from the ever-varying forms and colours of the clouds, and of the rainbow,—from the sea, calm and raging,—from tides and currents, rocks and shoals,—from fountains, rivers, rain, hail, snow, and ice,—from the weather,—from mountains and hills, and from stones, both hard and soft,—from fire and smoke,—from cold and heat,—from times of drought, and of floods, and of overflowing rivers, and from boiling springs and earthquakes. I have attempted to classify them roughly, and I find that:—(1.) From *Animals* (exclusive of Man) he has derived 150 proverbs and proverbial sayings,—which may be divided thus,—of Mammals (including the Seals, Whales, and Bats), 22;—of Birds (including the largest and the smallest, extinct and present species), about 65:—of Fishes, both sea and fresh-water, about 30;—of Shell-fish and Crustaceans, a dozen;—of Reptiles and Worms about the same number; and another dozen, or more, of Insects, including larvae. (2.) From *Plants* and their uses,—including the largest timber trees, and the tiny moss, and seaweeds,—their timber, fruits, edible roots, textile fibres, resins, gums, and scents,—upwards of 70. (3.) From *Natural [112] Inanimate Objects*, and the operations of Nature already mentioned, about 100. (4.) From *Man*,—both chief and slave, male and female, old and young,—the parts of the body, his ailments, infirmities and sins,—his faculties, habits, and great powers,—nearly 100. I also find (5.) that from their *Gods, demi-gods, and ancient heroes*, mythical or real, they derive above 100; and a like number, incidental, occasional, and peculiar, of particular or *celebrated men*; (6.) from *Numbers*, about a dozen; (7.) from *Artificial Objects*,—such as, the House and its belongings, the Canoe (their ship!) and its equipment,—from their many and varied garments,—from war, fishing, fowling, and husbandry implements,—from their artificial paper kites and other games,—from their many Ornaments of greenstone, birds' feathers, and shark's teeth,—and from their scented necklaces, anointing oils and various cosmetics, nearly 200; while (8.) for love, affection, sympathy nobility and greatness,—kindness and hospitality,—industry (both of men and women), quickness, and expertness,—endurance, patience, deliberation, counsel, and advice,—peace not war,—courage and bravery,—and, *against* ill-temper, ill-manners, and ill-nature,—laziness both of men and women,—weariness and grumbling,—slander, shame, lying, and theft,—begging, idleness, and gluttony,—disobedience, fear, cowardice, anger, hate, rashness, and threatening,—superstition and omens, they have more than 200; of which, it may be observed, that by far the largest number are in support of industry, and *against* slander, gluttony, and laziness—their present three common vices. "*O tempora! O mores!*"

466 The juxtaposition of contrasting ideas, usually in a balanced way, e.g. "Many are called, but few are chosen".

467 WC: Vide paper on the Moa; Art. VI., Part II.

468 WC: Vide Vol. XI., Part I. of "Contributions, etc., p. 83.

469 WC: Vide Part III. of "Contributions, etc., infra.

The colonist of to-day—aye, and most, too, of those of the last ten, or even 25–30 years—who have had many dealings with the Maoris, or who have had ample opportunities of observing them closely, will naturally feel a little perplexed at this; as, I fear, their own experience would generally tell a different tale. But it must be borne in mind that the present generation is a widely different one from their forefathers,—inheriting nearly all their vices (with those heavier and commoner ones too surely attendant on “civilization!”), and but little of their virtues. The modern settler in New Zealand would be quite prepared to hear of many Maori proverbs and proverbial sayings in favour of war, cruelty, anger, hate, murder, theft, gluttony, sloth, laziness, lying, duplicity, stratagem, over-reaching and over-bearing conduct, the ill-treatment of women, children, and slaves, and of superstition and omens; but of all such proverbs, as a rule, it may safely be affirmed they are not to be found among those of the Maori people.

There is something in all this which is of far greater moment than appears at first sight; which, I have little doubt, will be duly considered in time to come. The question here naturally arises, Were those many proverbs and proverbial sayings in favour of the good and the useful—real? [113]

What influence had they on the people? Were they ever acted upon? And here, with reference to some of them, I can personally bear testimony; especially to those referring to general industry, to kindness, and to hospitality; to quickness, diligence, and expertness; to endurance, patience, courage, and advice; to good manners, and to good temper;—all these manly and noble qualities I have seen largely practised by the old New Zealander, before Europeans came generally among them. The chief and the lady worked hard and regularly, as well as the plebeian and slave; and as to their hospitality, it was beyond all praise!—not unfrequently giving the whole of their meal (including that of their children), and that, too, in a time of scarcity, and contentedly going without! While ill-manners, ill-temper, and ill-nature,—slander, lying, theft, and disobedience,—idleness, laziness, and begging, gluttony, and anger,—I have not unfrequently heard rebuked with a timely-cutting proverb, and that with good effect. In nearly all those things the Maori has deteriorated fearfully since his close contact with “civilization,” and his becoming largely possessed of money!—the “love of which,”<sup>470</sup> in his case, has truly been “the root of all evil” to the race!

Before, however, that I give you some examples of their proverbs and proverbial sayings, in proof of what I have already said, I would just make two brief remarks concerning proverbs, which alike pertain to proverbs of all countries, *viz.*: (1.) There are some which are wholly untranslateable, or which, when translated literally, lose their meaning. (2.) There are others, again, which from their very brevity yet well-known allusion in their own vernacular, are without any meaning when rendered into a foreign tongue, and can only be made intelligible by a long and perhaps a tedious translation.

470 WC: Lest any should say I have Paul’s well-known and often-quoted passage in my mind (which I have not), I will give a notable passage to the same effect from the Greek tragedians, 500 B.C.:—“For no such evil institution as money has arisen to men. It lays waste cities; it drives away men from their homes; it seduces and perverts the honest inclinations of mortals to turn to base actions; and it has taught men to learn villainies, and to know the impiety of every deed.”—Sophocles: Antigone.

The *first* arises from the total want of anything of the peculiar kind whence the simile is drawn in the proverb, being used among the people into whose language the proverb is to be translated. Of what use would such common European sayings as, “As hard as steel,” “As heavy as lead,” “As precious as gold,” be to a people who knew nothing of metals? Or, such allusions as, “As cold as ice,” “As white as snow,” be to the inhabitants of the tropics? Or, such proverbial sayings as, “Sour grapes,” “Great cry, but little wool,” “Boy and wolf,” be to a people who did not know anything whatever of the things mentioned?

The *second* arises from a similar cause, only here it is the peculiar event—the doing or saying—which is wholly unknown to the people into [114] whose language the proverb is about to be translated; such as, for instance, the common sayings,—“Coals to Newcastle,” “The Greek Kalends,” “Davy Jones’ locker,” “Hobson’s choice,” “Nelson’s signal,” etc. Now all such short proverbial sayings as these absolutely lose their pregnant meaning when literally translated, and can only be understood upon being fully explained. A notable instance of all this took place here in New Zealand, some twenty-five years ago. The “Pilgrim’s Progress,” of John Bunyan, which abounds in homely and useful proverbs and sayings, was translated into the Maori tongue<sup>471</sup> by order of the Government, and the translator endeavoured to render all such sayings literally! The consequence was he completely spoiled his work,—as the wit, the allusion, or apt turn of such a saying could not possibly be so shown in the translation. He might, however, if he had known them sufficiently well, have supplied, in many places, similar and suitable Maori proverbs in their stead.

And this will be found to be more or less the case in all languages. Still, the rendering of any of the various European proverbs into another European or Western-Asiatic language than its own vernacular is not so difficult, at all events not under the *first* head, because the animals, plants, metals, and things in general, and their uses, are either the same or well known; indeed, it is sometimes a difficult matter to ascertain whence the proverb originally sprang—with the English, the Irish, the Welsh, or the Scotch, or with the British, the French or the German, etc.,—seeing such have ever been alike used by all;<sup>472</sup> but such a thing can never happen with any Maori proverb, which, however much resembling a European one, must be original;—while, under the *second* head, many of them when translated into another European tongue are pretty well understood. But the very contrary of all this is the case in the endeavour to render our English proverbs into Maori, or the Maori proverbs into English. Hence, it will be observed that by far the larger number of the short, sharp, witty, pungent, and popular ones of the Maori, having no

471 WC: Though a far better translation of the same work had been made nearly twenty years before, by a skilled Maori scholar; this translation, in MS., I have still by me.

472 WC: As, for instance:—“A’re no frien’s that speak fair to you” (S.), “All are not friends that speak us fair” (E.); “As the auld cock crows, the young ane learns” (S.), “As the old cock crows, the young one learns” (E.); “As the old cock crows, the young bird chirrups” (I.). Again, “To carry coals to Newcastle” (E.), “To carry saut to Dysart” (S.), “To send water to the sea” (French and German), “To send fir to Norway” (Dutch), are all one and the same proverb as to meaning, but which is the original?

equivalents, cannot be readily rendered into English, and, therefore, must necessarily be omitted by me on this occasion. [115]

Once for all, I may say that, in translating those ancient proverbs and proverbial sayings which I now bring before you, I have studied accuracy before elegance, endeavouring also, at the same time (as far as the differing idioms of the two languages will allow), to preserve much of the manner in which the pregnant thought was originally expressed; such being just as important as the thought itself. In the original, the expressions are arranged for the most part antithetically in distichs, like the Proverbs of Solomon, and, not unfrequently, poetically; and are truly rich in images borrowed from the whole world of Nature.

### MAORI PROVERBS, ETC.

#### I. RELATING TO INDUSTRY.

1. *He tangata momoe, he tangata mangere, ekore e whiwhi ki te taonga.*  
A sleepy-headed lazy fellow will never possess riches. Resembling some in the Proverbs of Solomon.
2. *He kai kei aku ringaringa.*  
I can earn my food with my own hands.  
*Lit.* I have food in my hands; or in the use of my hands.
3. *Tama tu, tama ora; tama noho, tama matekai.*  
The working chief (or son) flourishes; the idle chief wants food.  
*Lit.* Standing chief—living chief; squatting chief—hungry chief.
4. *He kai tangata, he kai titongitongi kaki; He kai na tonā ringa, tino kai tino makona noa.*  
Food from another is little and stinging to the throat; Food of a man's own getting, is plentiful and sweet, and satisfying.
5. *He panehe toki ka tu te tangitangi kai.*  
A little axe well-used brings heaps of food.  
This reminds one of the Persian proverb:—"In time the mulberry leaf becomes satin." To have plenty of food for hospitable purposes was the greatest of all things with a New Zealand chief, as nothing raised them and their tribe more in the estimation of all.
6. *Takoto kau ana te whanau o Taane!*  
The forest is felled (for planting), the hard work is done.  
*Lit.* The children of *Taane* are lying prostrate.—*Taane* being the god of woods and forests, the trees were called his children or offspring.
7. *Tena te ringa tango parahia!*  
Well-done the hand that roots up weeds!  
Applied to a steady worker in root-crop plantations.  
*Parahia*, a low-spreading weed (*Ctenopodium pusillum*), is particularly plentiful at Taupo.
8. *He mate kai e rokohanga, he mate anu ekore e rokohanga.*  
Hunger can be remedied, not so the want of warm clothing. [116]  
*Lit.* Famine can be overtaken, sharp feeling of bitter cold can not be overtaken.  
N.B.—Here, bear in mind, that all the garments of the New Zealanders, whether made from their flax fibres,
9. *He toa taua, mate taua; he toa piki pari, mate pari'; he toa ngaki kai, ma te huhu tena.*  
The warrior is killed in war; the fearless scaler of lofty cliffs (in search of sea-fowl) is dashed to pieces; the industrious husbandman lives long and dies peacefully of old age.  
*Lit.* The hero dies in fight; the climber of precipices by a fall; the cultivator of food by worms—meaning old age, or gradual decay.  
N.B.—This bears out Cook's statement: Vol. III., pp. 460,461. Here is another of similar meaning:—
10. *He toa paheke te toa taua; tena ko te toa mahi kai ekore e paheke.*  
The warrior stands on insecure footing (or slippery is the fame of the warrior); but the industrious cultivator of land will never slip or fall.
11. *Ma pango ma whero ka oti.*  
Through chief and slave working together with a will the work will be done.  
*Lit.* By black (and) by red finished.  
The slaves and plebeians, naked and unwashed, were black enough; the chiefs used red pigment to anoint themselves.
12. *Maramara nui a Mahi ka riro i a Noho.*  
The big chips are hewn off by Worker, but the food is taken and eaten by Looker-on, or Do-nothing, or Idler.  
*Lit.* Worker (has) big chips gone with Squatter! This proverb is so cleverly constructed as not to give offence to a highly-sensitive race, with whom a cross word, or gesture, or look, respecting food, was quite enough to cause serious disturbance: here, however, so much has to be inferred—"If the cap fits wear it." This is used when men are hard at work hewing timber for a canoe, house, etc.; at which time some are sure to be idly squatting-by looking-on; and when the cooked food for the workmen is brought in baskets, those squatters are often the first to fall-to; and to this, also, no exception can be taken!
13. *Kahore he taraina tahere i te ara!*  
You cannot hew a bird-spear by the way.  
*Meaning:* Without timely preparation you may die for want of food. Birds were formerly speared in great numbers in the woods; but to make a proper bird-spear took a long time, and (to me) was one of the wonders of old! [117]
14. *Ka mate kaainga tahi, ka ora kaainga rua.*  
Through having only one cultivation the man dies from want, through two he lives.  
*Lit.* One place death (or want), two places life (or good living.)  
This was carried out fully by the New Zealanders, as to food cultivations, houses, bird-preserves, eel-weirs, fishing-grounds, etc., not only that they might have plenty, but so as to secure some from being carried off by their foes, in time of feuds, often happening.

Another similar proverb ran—

15. *Ka mate whare tahi, ka ora whare rua.*  
With one house, want; with two houses, plenty.  
The meaning being much the same, only more applicable to the chief having two wives, who, each in her own house, wove garments.

16. *I whea koe i te ngahorotanga o te rau o te kotukutuku?*  
*Meaning:* Where wert thou in the time of work,—or of danger?  
*Lit.* Where wert thou in the falling of the leaves of the *kotukutuku*?  
 This tree (*Fuchsia excorticata*) is the only one in New Zealand which is really deciduous. This proverb may also be used for many other purposes; as,—When in siege or battle your tribe or people were killed, where were you? absent or hiding? *Meaning*, Is it meet for thee to boast, find fault, or speak? At such times it is a very cutting sarcasm; often causing intense feeling.
17. *I hea koe i te tangihanga o te riroriro?*  
 Where wert thou at the crying of the *riroriro* bird?  
 The *riroriro* (*Gerygone flavigularis*) cries in the early spring, the season for preparing cultivations for crops; so this proverb is used to a lazy or careless person who is without cultivated food, especially when begging; and it causes great shame. It is not unlike in meaning to the western fable of the Ant and Grasshopper.
18. *Ko te tokanga nui a Noho.*  
 The peaceful dweller at home has always a thumping big basket of food to eat.  
*Lit.* The big basket of Stay-at-home.  
 N.B.—Here it should be observed that the dweller at home is merely named *Noho*, = to sit down, to dwell quietly; of course such a one is not supposed to be idle.
19. *He wha tawhara ki uta, he kiko tamure ki tai.*  
 Inland is the *tawhara* fruit; in the sea, the flesh of the snapper.  
*Meaning:* Sweet food for man is everywhere, in land and water, by exertion.  
 The *tawhara* is the large sweet sugary flower bract of the *kiekie* (*Freylinia banksii*), generally found plentifully in the white pine forests, [118] and formerly eaten abundantly. The *tamure* is the snapper (*Pagrus unicolor*), a common fish on all the coasts.
20. *Whana atu poho ki roto, haere mai taiki ki waho; nohoia te whare, ko te hee tonu.*  
 Inward goes the pit of the stomach, outward come the ribs (from) persistently sticking in-doors, the greatest of all ills.  
 This is a highly ludicrous proverb; the joke, or point, being largely increased through the play on the three verbs,—to recede, to come hither, and to squat idly in-doors; or, increased as it is in the passive,—to remain within to support the house! It is used in times of cold and hunger, showing their effects: “Too cold to go out,” “Too hungry to remain in-doors without food, yet keeping house!—squatting idly, or doing nothing!”
21. *Te wahie ka waia mo takurua, te kai ka mahia mo tau.*  
 Firewood is sought for winter, food is laboured after for the year.  
*Meaning:* Be usefully employed.
22. *Te toto o te tangata, he kai; te oranga o te tangata, he whenua.*  
 The blood of man (is from) food, the sustenance of man (is from) land.  
*Meaning:* Hold to your land, particularly that whence you derive your living.
23. *Taane rou kakahi ka moea; taane moe i roto i te whare kurua te takataka.*  
 The husband who is dexterous at getting shell-fish in

deep water, will find a loving wife; the husband who sleeps idly in the house, will be thumped and knocked about.

This operation of getting shell-fish in *deep* water, both fresh and salt, was generally performed by men with their feet; by which they dislodged the shell-fish, and then got them into proper nets, etc.

## II.—IN FAVOUR OF PERSEVERANCE, EXERTION, ETC.

24. *Tohea, ko te tohe i te kai.*  
*Persevere strenuously, like as you do in eating.*
25. *Na te waewae i kimi.*  
*Obtained by seeking.*  
*Lit.* Sought for by the leg.
26. *He iti te toki e rite ana ki te tangata.*  
 Though the stone-axe be small, it is equal to the man (in clearing the forest, etc.)
27. *He iti hoki te mokoroa, nana i kakati te kahikatea.*  
 Although the grub is but little, yet it gnaws through the big white pine tree (*Podocarpus dacrydioides*). [119]
28. *Mate kanohi miromiro.*  
 To be found by the sharp-eyed little bird.  
*Lit.* For the *miromiro*'s eye.  
 Used as a stimulus to a person searching for anything lost. The *miromiro* is the little *Petroica toitoi*, which runs up and down trees peering for minute insects in the cavities in the bark.
29. *He kai iana ta te tou e ho ake?*  
 Do you think to gain food through inaction?  
*Lit.* Will squatting at home on your posteriors bring you food?
30. *E rua tau ruru; e rua tau wehe; e rua tau mutu; e rua tau kai.*  
 Two seasons of drought; two seasons of scarcity; two seasons of crop failure; two seasons of plenty.  
*Meaning:* Persevere, keep at it, success will follow.
31. *Tungia te ururua, kia tupu whakaritorito te tupu o te harakeke.*  
 Set fire to the scrub that the flax plants may shoot forth young evergreen shoots.  
*Meaning:* Clear off the old and bad that the new and good may grow vigorously.

## III. AGAINST IDLENESS, LAZINESS, GLUTTONY, ETC.

32. *Nga huhu, nga wera, to kai, e mangere!*  
 This lazy fellow does nothing but roast himself by the fire!  
*Lit.* Burns (and) scalds (are) thy food O lazy-bones!
33. *He kai ko tau e pahure.*  
 Food is the thing you can get through very well (but work you cannot despatch, understood).
34. *Kai hanu, kai hanu, hoki mai aoe ko to koiwi!*  
 After going about idly “loafing” (mumping) from place to place (*lit.*, eating scraps!), thou returnest again to thy own proper home!
35. *Hohonu kakii, papaku uaua!*  
 Deep throat, little sinews (to work)!  
 N.B.—Here also the adjectives should be noticed,

being in direct opposition, and not only so but as here used they have a ludicrous quip, being terms properly and usually applied to water—*Hohonu* = deep: *papaku* = shallow.

This would prove a cutting saying.

Here is a similar one:—

36. *Ka kai kopu, ka iri whata, kei te uaua te kore.*  
He fills his belly, he carefully lays up the remainder for himself, but, alas! has no sinews for work! [120]

Here is another:—

37. *To kaha kei te kakii, karapetau tonu!*  
Thy strength is in thy throat, for ever swallowing greedily.
38. *He moumou kai ma Te Whataiwi puku ngakengake!*  
It's waste of food to give it to big-bellied Store-up-bones.  
Two peculiar terms are to be noted here:—1. The figurative name given to the person, *Whataiwi*, i.e., one who puts by dry bones (including fishes' heads, etc.) for himself on a platform for storing food; and, 2. The ludicrous term (not the common one) for big belly, i.e., the loose hanging bag of a large sea-net!

39. *He hiore tahutahu!*  
An often singed tail!  
Used for an idle fellow. Taken from a lazy dog lying before the fire and getting its tail repeatedly burnt.  
N.B. The tail of the ancient Maori dog had very long hair, which was of great value to its master for clothing and ornament, but when singed was useless; and might therefore be killed for food.
40. *Kei te raumati ka kitea ai e koe te tupu.*  
When summer comes you will find it by its sprouts.  
Spoken ironically to a person who will not exert himself to find a lost thing, etc.

41. *E noho, tena te au o Rangitaiki hei kawe i a koe.*  
Sit on idly, doing nothing, there are the rapid currents of the river Rangitaiki to carry thee along.  
Used to a lazy fellow who ceases paddling the canoe.
42. *He huanga ki Matiti, he tama ki Tokerau.*  
In the planting season merely a relative; at harvest time a son (or, eldest son).

43. *He kooanga tangata tahi, he ngahuru puta noa.*  
At planting time, helpers come straggling singly; at harvest, all hands come from everywhere round.  
*Lit.*—to show its terseness—At planting, single-handed; at harvest, all around.

Here is a similar one, which was a favourite saying of the late chief Te Hapuku:—

44. *Hoa piri ngahuru, taha kee raumati.*  
Friends stick to you in harvest, but fall off in summer—the season of scarcity and work.  
Very like our English proverbs, "Prosperity makes friends, adversity tries them;" "The rich man has many friends." [121]
45. *He kakariki kai ata!*  
(Like) a little green parrot (which) eats at daybreak!  
Spoken of a person who looks to eat on rising before going to work.

46. *He kuukuu tangae nui!*  
A pigeon bolts his food.  
Used of a greedy fellow, never satisfied.
47. *He kuukuu tangaengae nui; he parera apu paru.*  
The pigeon bolts, the duck gobbles up mud and all.  
Said of a gluttonous fellow.
48. *He kaakaa kai honihoni!*  
A parrot eats leisurely, bit by bit.  
Said to a person who eats moderately and slowly.
49. *Ka whakarongo pikari nga taringa.*  
(With) ears quick at listening, like young birds in their nests.  
Spoken of a fellow always on the look-out for the call to meals.

Here is another of a similar meaning (also one of Te Hapuku's):—

50. *Taringa muhu kai!*  
Ears on the *qui vive* for food!
51. *Awhato kai paenga; and, Ka mahi te awhato hohoni paenga!*  
Bravo! great caterpillar eating around the edge of the leaf!
- Those two proverbs are nearly alike. The *awhato* is the large larva of the moth *Sphinx convolvuli* (or some allied species), which ate the leaves of the *kumara*, or sweet potatoe, in the Maori plantations (beginning at the edges and leaving the mid-veins), and was therefore a most noxious and hateful animal to them. The proverb is used of a greedy person who goes eating from basket to basket at meal times, selecting the best bits. Formerly, the New Zealanders had their cooked food served up in numerous small baskets; they often sat in a circle to eat their food, and always out of doors.
52. *Awhato ngongenga roa!*  
Ugly great caterpillar, always slowly nibbling.  
This is similar to the last two.
53. *Ko Uenuku to korokoro!*  
Thy throat is even as Uenuku's.  
Applied to a great glutton. This is even stronger in Maori,—“Thy throat is Uenuku.” He was a desperate old glutton of very ancient times, who had dwelt at “Hawaiki.” Many things are related of him.
54. *Tohu noa ana koe, e Rangikiato, he whata kei te kakii!*  
O Rangikiato! what are you after? Laying by food!  
Verily, a food-store is in thy throat! [122]  
Applied to a man who eats more than his share, or who takes away titbits from others at meals.
55. *Patua iho, he kaka, ki tahaki tera; a, ka puehuehu, ma tana whaiaro tera.*  
He pounds away, lo! a stringy bit,—that's placed alongside (for the visitors); ha! a nice mealy bit, that's for himself or his favourite.  
This has reference to the preparation of fern-root for eating; and was used for a sly, selfish, greedy person.  
N.B.—There was a great difference in fern-root, of which varieties the Maori had many names. The difference was much the same as in the various kinds of potatoes and of flour with us.
56. *Pikipiki motumotu, ka hokia he whanaunga!*  
Constantly returning (at food-time, saying, he does so)

because he is a relation!

This proverb is concerning a lazy fellow, a "loafer," who always contrives to drop in at meals, because he is a relation; and is often used in times of scarcity of food, so as to cause those sitting at meat to eat up their victuals quickly. But the whole story is too good to be lost, so I give a translation of it.

"Tama-ki-te-wananga was lighting his fire to roast his food, but the fire did not burn briskly, so he said, 'Bother the fire, it does not kindle well; and stooping down he blew at it with his breath that it might burn the better. At this very moment Hauokai had come up, and was standing behind his back, but Tama did not know of it; so he kept on blowing away at his fire, saying, between whiles, 'Flame up, blaze away, that thou be not caught by Hauokai.' It came to pass, however, that he (Tama) was indeed thus caught by him while saying those very words. On hearing them, Hauokai called down from behind his back, 'What have you got against me, O Tama-ki-te-wananga?' Then Tama turned round and looked up—alas! there, verily, was Hauokai himself standing looking down on him. For some time Tama kept looking up with vacant surprise, not knowing what to say. At last he said, 'Thy often comings and goings.' Hauokai replied, 'Yes, my returning hither was owing to my relationship.' Then Tama said to Hauokai, 'Just so, and more too; it is thy continually returning hither.' Then it was that Hauokai said to Tama, 'I frequently returned hither, as you have said, through our relationship, but now you and I shall be separate; we shall never again see each other from this time forward; nevertheless, our two spirits (*wairua*) shall meet in the nether world (*reinga*).'<sup>473</sup> And from that time they never saw each other up to their death. [123]

#### IV. AGAINST SLANDER, LYING, STORY-TELLING, ETC.

57. *He pata ua ki runga, he ngutu tangata ki raro.*  
Dropping water wears away the soil, so frequent slander a good name.  
*Lit.* A rain-drop above, a human lip below. Resembling some of Solomon's Proverbs.
58. *He tao rakau e karohia atu ka hemo; te tao kii, werohia mai, tu tonu.*  
A thrown wooden spear, if warded off, passes away; the spoken spear, when spoken, wounds deeply.

Another rendering of the same proverb:—

59. *He tao kii ekore e taea te karo, he tao rakau ka taea ano te karo.*

473 WC: There are several items of interest in this old story, but I must pass them by to take up a more modern one. A few years ago, the then Superintendent of the late Auckland Province (Mr. J. Williamson) sought to have an interview with a Maori chief of note on political matters; this, however, the chief would not grant, ending with saying, "You and I shall never meet until we meet in the *reinga*." This, of course, was made much of. The dreadful bitterness of expression—"never until we meet in hell!"—was intensified and dwelt upon shudderingly with much Christian feeling, but all through ignorance on the part of the Christian Europeans. The New Zealander had no such thoughts, and only made use of an old saying, the English having chosen this word (*reinga*) as the equivalent for hell; a meaning, however, which it does not possess.

A spoken spear cannot be warded off, a wooden spear can easily be warded.

60. *Ka katokato au i te rau pororua!*  
I am going about gathering, bit by bit, the bitter leaves of the sowthistle.  
*Meaning:* I hear nothing but bitter words against me everywhere.  
N.B.—The *pororua* was the old New Zealand indigenous variety (or species) of sow-thistle, which is much more bitter than the introduced variety commonly called *puwha*.
61. *Te whakangunu nei ki nga tara a whai o Araiteuru!*  
O for impenetrable armour to oppose against the stings of the stingrays of Araiteuru!  
Used by a chief in defending his own tribe against slander. I believe Araiteuru is a large shoal off the West Coast, near Taranaki; in such places, as also on shoals and mud-flats in harbours, as at Ahuriri, Whangarei, etc., large sting-rays abound.  
N.B.—Here again there is much in the very name of that shoal which is lost in translation, *viz.*: Barrier-against-the-western-blast. (Psalm LVII., 4).
62. *Kia eke au ki runga ki te puna o Tinirau!*  
I may just as well attempt to climb up and sit on the blow-hole of a whale! [124]  
A proverb of deep meaning to a Maori, grounded on legendary lore. Used of slander.
63. *Aweawe ana nga korero i runga o Maunga Piware.*  
Reports and talks are ever floating in the air over Mount Piware.  
I suspect that this place, "Mount Piware," has a highly figurative meaning:—1. *Pi* and *ware*: *pi* = young downy nestlings, and *ware* = any thing viscous or sticky, as gum, etc. 2. *Maunga* has, besides its common meaning of mountain, the meaning of fast-to, adhering to; so that the full meaning may be, reports floating in the air are light and downy, and are easily caught and held by soft viscid surfaces.  
*Meaning:* Don't believe all you hear.
64. *Tangaroa piri whare!*  
Tangaroa is hiding in the house.  
Tangaroa is one of the great Polynesian gods, and particularly of the sea and fishes; is invisible, and hears all; be careful. "Walls have ears."
65. *Tangaroa pu-kanohi nui!*  
Large-eyed Tangaroa can see all you do, or say.
66. *Kei whawhati noa mai te rau o te raataa!*  
Don't pluck and fling about to no purpose the blossoms of the *raataa* tree!  
The *raataa* tree (*Metrosideros robusta*), produces myriads of red flowers; the small parts of these when blown off by the winds fill the air around: so,—Don't become ashamed when your lying is detected.
67. *Ko Maui whare kino!*  
Yes, Maui with the evil house! or, Just like Maui of the house of ill-fame!  
Schemes and cunning stratagems were planned in Maui's house, or by Maui wherever staying; he was truly the coming deviser of schemes; in this respect

much after the fashion of Mercury, the son of Maia;<sup>474</sup> and of Proteus.

68. *Ko Maui tini hanga!*  
Yes, Maui of many devices!

These last two proverbs were often used in speaking of a scheming, cunning person.

69. *Ko korua pea ko Tama-arero i haere tahi mai?*  
Perhaps thou and False-tongue<sup>475</sup> travelled hither together?  
70. *Korua pea ko Te Arahori, i haere tahi mai?*  
Perhaps thou and False-road came here together? [125]  
71. *I haere mai pea koe i te kaainga i a Te Arahori?*  
Perhaps thou camest hither from the village of Mr. False-way?  
72. *Korua pea ko Te Tangokorero i haere tahi mai?*  
Perhaps thou and Take-up-talk travelled hither together?  
73. *Na Tangokorero pea koe i tono mai ki konei?*  
Perhaps thou wert sent hither by Take-up-talk?

Those last five proverbs are very nearly alike in meaning, though used by different tribes. They were made use of when visitors should arrive bringing strange tales, or slanderous ones. I bring them here together to show how largely the ancient New Zealanders dealt with fictitious and figurative characters, to whom they gave highly appropriate names, just as Bunyan, already mentioned.

74. *Ka mahi te tamariki wawahi taahaa!*  
Bravo! children, smashing your (mothers') calabashes!  
This saying is often applied to a man who is defaming his own relations, or tribe.

#### V. AGAINST TRUSTING TO PROMISES, APPEARANCES, ETC.

75. *Nga korero o era rangi, mahue noa ake!*  
Promises of other days, wholly left behind!  
“Never trust to fine promises.”  
76. *He marama koia kia hoki rua ki Taitai?*  
If indeed thou wert like the moon to return a second time to its place of shining?  
*Lit.* A moon indeed! to return twice to one place (or to Taitai = name of place)?  
Said to a person who promises to give you something at the next time of meeting.  
77. *Poroaki tutata, whakahoro ki tau kee!*  
Last words at parting stand close at hand, deferred by slips to another year!  
Said of a person too ready in promising.  
N.B.—The word “whakahoro”—which I have rendered deferred by slips—is here very expressive; it means to fall by degrees, or to slip, slide, or crumble down, as clayey cliffs, etc.; or to be levelled, as mounds, dykes, etc.  
78. *Hohoro i aku ngutu, e mau ana te tinana.*  
My lips were quick (to move), the body being fixed.

*Meaning:* Promises were quickly made, but the body is slow to perform.

N.B.—“Body,” with the old Maoris, meant more than with us; *viz.*, the whole man, the entirety, the substance, as against the mere lips. Just [126] as we might speak of the body of an oak in comparison with two of its branchlets.

“My tongue hath sworn, my mind is still unsworn.”—EURIP.; *Hippolytus*.

79. *Haere ana a Manawareka, noho ana a Manawakawa.*  
Well-pleased goes off, Bitter-mind remains behind!  
*Meaning:* He who has got what he wanted goes away rejoicing; while he who has given without any return gift, trusting to the others' promises, endures the pangs of disappointment and regret.  
80. *Tee whai patootoo a Rauporua!*  
Long-Bulrush did not strike loudly and repeatedly (so as to be heard)! or, Long-Bulrush gains nothing by his repeated attempts at hitting!  
This proverb is used by, or for, a person who returns without that for which he went. It is one of deep meaning to an old Maori (though little understood by the present younger ones), and always evokes a laugh; but requires a little explanation.  
The *Raupo* plant (= Bulrush, *Typha angustifolia*), which is here figuratively personified, grows in watery places and in the water; the tips of its long narrow numerous leaves are always agitated with the least breeze, and are naturally carried by the same in one direction before the wind; hence, they invariably keep the same distance from each other, or, if they clash, their striking is not heard, and is productive of no result. Moreover, as the longest plants grow only in the deeper water, the saying may also have a latent reference to the greater difficulty in gathering the flowering spikes from such tall plants; for, in the summer season, parties went among the *Raupo* specially to gather the dense heads of flowers for the purpose of collecting their pollen, when only a smaller quantity could be obtained from the over-long plants, owing to their extra height above and to the greater depth of water below, etc., though attended with much more labour. This pollen, in its raw state, closely resembled our ground table-mustard; it was made into a light kind of yellow cake, and baked. It was sweetish to the taste, and not wholly unlike London gingerbread. Thirty years ago, specimens of it, both raw and baked, were sent to the Museum, at Kew. I have seen it collected in buckets-full.  
81. *Hei te tau koroi!* and, *Hei te tau ki tua!*  
Put off till the season in which the white pine tree bears its fruit! (which is not, however, every year); *and*, At the season yet to come.  
82. *He iramutu tu. kee mai i tarawahi o te awa.*  
A nephew stands carelessly (or, without regard) on the opposite side of the river. [127]  
*Meaning:* He is not to be depended on in times of extremity, etc., like a son.  
I take it, however, that this “nephew” is the son of a brother, not the son of a sister.  
83. *He pai rangitahi!*  
A one day's beauty; a short-lived pleasure.  
Sometimes used of a girl's countenance.

474 WC: Sophocles; Philoctetes.—Aristophanes; Plutus.—Horace; Odes, lib. I., 10.

475 WC: Son-of-the-tongue, or, Master-of-the-tongue, would be more literal, but I have given the meaning.

*Meaning*, also: After a fine day, a storm follows; after a great feast, a famine, etc.

84. *He pai tangata ekore e reia; he kino wahine ka reia.*  
A handsome man is not always eagerly sought after; an ugly woman is eagerly sought for—or, has plenty of lovers.  
Here it should be remembered, that with the New Zealanders the women always began the courting.
85. *He pai kanohi, he maene kiri, he ra te kai ma tono poho; waihoki, he pai kupu kau.*  
Pretty face, smooth skin, loves to bask idly in the sun; therefore the beauty consists in words only.  
("Prettiness dies quickly").  
This is plain enough; but, in the next, we have just the opposite.
86. *He pai kai ekore e roa te tirohangā; he pai kanohi e roa te tirohangā!*  
Good and pleasant food is not long looked at; a good-looking face is long observed.  
*Meaning*: Looked on with satisfaction and delight.

## VI.—AGAINST A BOASTER, ETC.

87. *He nui to ngaromanga, he iti te putanga.*  
Long thy absence, little seen (with thee) on return.
88. *E wha o ringaringa, e wha o waewae!*  
Thou hast four hands and four legs!  
A word said quietly to a boasting fellow.
89. *He kaakaa waha nui!*  
A noisy-mouthed parrot!  
Applied to a chatterer, or boasting person.
90. *Me ho mai nga hau o Rirapa ki uta.*  
Let the exploits of Rirapa be brought to land.
91. *Kei uta nga hau o Rirapa te tu ai.*  
'Tis on shore that the fine doings of Rirapa are seen.  
Both used of a lazy, hulking fellow, who is lazy in a fishing-canoe at sea, etc.
92. *Whaka-Ruaputahanga i a koe!*  
Thou art making thyself appear as big as the great lady chief of old Ruaputahanga!  
Said to a boaster. [128]  
Here again, no doubt, is a figurative name; or a secondary name, often added on account of qualities, doings, etc.; Ruaputahanga meaning a store whence goods, etc., were always being issued. The liberal person was always liked and immortalized.
93. *Toku toa he toa rangatira.*  
My courage is that of a chief; or, my courage is derived from my ancestors.  
Said, but rarely, to a mushroom-man of to-day, who boasts of himself or his doings.  
Here it should be borne in mind that a chief of to-day is the descendant of ancient chiefs.
94. *Ko nga rangatira a te tau titoki!*  
Chiefs of the *titoki* year!  
This needs explanation. The *titoki*, or *titongi* tree (*Alectryon excelsum*), from the fruit of which the natives formerly extracted an oil for anointing the hair and persons of their chiefs, only bore fruit plentifully (according to them) every fourth year; so that, in that year, all hands could use the oil and a little red

pigment, and thus, for once, look like a chief without being so.  
(A daw in borrowed plumes.)

95. *Tiketike ao, papaku po!*  
A tall pinnacle by daylight, shallow water by night.  
*Lit.* Lofty day, shallow night.  
*Meaning*: Valiant and boasting, when the sun is shining and all is well and no danger near; but in the darkness and dread, low enough.
96. *Tiketike ngahuru, hakahaka raumati!*  
Tall at harvest, low at planting season!  
*Meaning*: He boasts enough in the autumn when there is plenty of food and little to do; but in the wearisome and heavy working spring season he is not to be seen.
97. *Ko wai hoki koia te wahine pai rawa? Te wehenga atu ano i a Muturangi!*  
Who, indeed, now is the beautiful woman? All that ceased for ever with the last great lady (*i.e.*, when she died).  
This saying is used when a woman is vain of herself; or, when persons boast of the good old times, when better, or handsomer females lived.  
The ancient beauty's name, *Muturangi*, means,—the last of the great lady chieftainesses. *Rangi* (=sky, heaven) is an ancient name for a principal chief, whether male or female,—from *Rangi*, the first parent or producer of man; and was also used by way of high title, or address. I have no doubt, however, of its here having a highly figurative meaning, like other proper names in many of their proverbs. [129]

## VII.—AGAINST INHOSPITALITY.

98. *He kuukuu ki te kaainga, he kaakaa ki te haere.*  
A pigeon at home, a parrot abroad.  
The New Zealand pigeon is a silent bird; the parrot is a noisy screamer. The pigeon remains quietly sitting on the high trees; the parrot flies about, making the forest resound with its loud cries.  
This proverb is applied to an inhospitable chief; he does not raise the cheerful inspiriting shout of "Welcome!" to travellers nearing his village; but, when he travels, then, on approaching any place, he sounds his trumpet to get food prepared, and afterwards finds fault with the victuals given him.
99. *E riri Kai-po, ka haere Kai-ao.*  
When Eat-by-night is angry, Eat-by-day leaves.  
*Meaning*: If the illiberal mean chief be angry (shown by withholding food and welcome), the liberal generous men continue on their journey.  
It was considered a very great insult for a travelling party to pass by a *pa* or village without calling. *Kai-po* is the common term for a mean selfish person.
100. *Kei kai i te ketekete.*  
Lest there be nothing to eat but vain regrets.  
*Meaning*: Bad for both sides—the visitors and visited—to have only excuses for food.  
This proverb was sometimes used by a chief as a warning to his tribe, when expecting visitors.
101. *He kotuku kai-whakaata.*  
The white crane eats leisurely, after viewing his food and his own shadow in the still water.  
This is said of a chief who looks after due preparations

being made for his expected visitors; also, of one who quietly and courteously awaits the arrival and sitting of others to their repast before he eats his own food.

### VIII.—RELATING TO HIDDEN THOUGHTS.

102. *He kokonga whare e kitea.*

The dark corner of a house can be seen and searched;—(*understood*, to complete the meaning) but not the heart of man.

103. *He taanga kakaho ka kitea e te kanohi; tena ko te laanga ngakau ekore e kitea.*

A mark, or knot (or placing), of a reed can be seen with the eye, but that of the heart can not be seen.

104. *He ta kakaho e kitea, ko te ta o te ngakau ekore e kitea.*

A knot, joint, or mark, on the cutting-grass reed is seen, but the mark or knot (heaving or thought) of the heart is not seen. [130]

I have often heard these last two proverbs used. They fall with bitter effect on the guilty person, often causing deep shames, as the New Zealanders abominated slander. The reference in both is to the *kakaho* reeds or flower-stalks, (cutting-grass = *Arundo conspicua*), formerly used for the inner walls and ceilings of a chief's house; these were sometimes partly coloured black in a kind of pattern of scroll-work, and when regularly laid side by side had a pleasing effect; any irregularity, however, in pattern or in laying, was speedily detected by the practised eye of the Maori; hence the proverb.

105. *He nui pohue toro ra raro.*

The convolvulus (roots are) many and spread below (the soil):—*supply*, just as the secret thoughts of men's hearts are hidden within.

106. *He tiitii rere ao ka kitea, he tiitii rere po ekore e kitea.*

The petrel which flies by day is seen; the petrel which flies by night is not seen.

One species of petrel always flies back to its mountain home from the ocean very late in the evening; I have very often heard its cry, but never saw it on the wing. This proverb is said of men's thoughts; also of night-attacks from the enemy.

107. *Ko to kai waewae te tuku mai ki au, kia huaina atu, e arotau ana mai.*

Thou allowest thy feet (or thy footsteps) to come hitherwards to me, that it may be said abroad, thou lovest to come hither.

Often said by a woman who doubts the affection of her lover; also by the people of a village who doubt the professions of a visitor.

108. *Katahi ka auraki mai ki te whanau a te mangumangu kikino, i te aitanga a Punga i a au e!*

How strange! to struggle to hasten hither of thy own accord to the offspring of the black and ugly, to me the begotten of Punga! Punga is said to be the father or progenitor of all the ugly and deformed fish, as sharks and rays, and also of lizards.

This proverb is applied by a man to a woman who had deserted him as her lover, but who returns to him again.

### IX. RESPECTING CAUTION, ETC.

109. *Ehia motunga o te weka i te mahanga?*

How often does the wood-hen break away from the snare?

*Meaning:* Take care, you will be caught at last.

110. *Ka hoki ranei te weka i motu ki te mahanga?*

Will the escaped wood-hen indeed return to the snare?

*Meaning:* "Once bit, twice shy." [110]

111. *Hoki atu i kona, ko te manu i motu i te mahanga ekore e taea te whai.*

Go back from where you are, it is useless pursuing the bird escaped from the snare.

*Meaning:* It is useless to attempt to take me in again. Said to have been used in ancient times by a lady who ran away from her husband; he pursued her to bring her back, and she got round a headland at low-water; on his reaching the place, the tide was breaking against the base of the cliffs, when she called to him from the top using those words, which have since passed into a proverb.

112. *He pureirei whakamatuatanga.*

A faithful fatherly tuft of rushes.

This is said of a good solid tuft of rushes in a swamp, which, in crossing the swamp, you stand on to rest a while, and to look around before you take the next step. A word of caution for many things. "Look before you leap."

113. *Ka tuwhaina te huware ki te whenua, e hoki atu ranei ki tou waha?*

When the spittle is spit out on the ground, will it return to thy mouth again?

*Meaning:* (much as the last), "Look before you leap."

114. *Kia mau koe ki te kupu a tou matua.*

Hold fast to the advice of thy father (or guardian).

A word of caution often given to the young,—as the dying advice, or teachings of the departed, were always strongly inculcated.

115. *Kia whakatupu tangata, kaua hei tutu.*

Show yourself (*lit.*, be growing up) a true man; never be disobedient.

Often said to the young. (I. Cor. xvi., 13).

116. *Kapo atu koe i te kai i nga ringaringa o nga pakeke, a e taea ranei e koe te whai i nga turanga o tupuna?*

Thou snatchest food roughly from the hands of the elders, and dost thou think thou wilt be able to follow in the steps of thy ancestors?

Applied to a chief's child, on his snatching food, or anything, from the hands of aged persons.

117. *Ata! ina te kakii ka taretare noa; ka maaro tonu nga uaua o te kakii!*

How disgusting! to see the neck turning from side to side; and the sinews of the neck strained to the utmost! Said of a person looking over the other baskets of cooked food set before a party, and coveting what is placed before his neighbours or companions.

The peculiar terms used are those which refer to a bird on the look-out up in a tree. [132]

118. *Kaore a te rakau whakaaro, kei te tohunga te whakaaro.*

The wood has no thoughts, such only belong to its carver, or designer.

119. *Tirohia, he moko.*

Examine well a tattooed countenance! (*Meaning:* A nobleman.)  
Said by a man to another who stares rudely at him.

120. *He whakatau karanga, tino taka iho a Te Kaahu.*

At the very first attempt to make the call (to dinner), down rushes Te Kaahu.  
Applied to a person who jumps at an invitation which was scarcely really meant. The person mentioned figuratively by name, Te Kaahu, is, translated literally, the Hawk.

121. *Mate wareware te uri o Kaitoa; takoto ana te paki ki tua.*

Foolishly died the offspring of Recklessness, the fine weather was ready close at hand.

122. *Mate papakore te uri o Kaitoa.*

The offspring of Rashness died heedlessly.  
These last two proverbs have the same meaning; the reference is to those who went hastily to sea in their canoe when a gale was coming on, and all miserably perished; fine weather, too, being near.  
*Meaning:* Be prudent; don't act rashly.

123. *Kei mau ki te pou pai, he pou e eketia e te kiore; tena ko te pou kino, ekore e eketia e te kiore.*

Do not select a fine nice post (for your storehouse), as that kind of post will be climbed up to the top by the rat, but the ugly post will not be so ascended by the rat. This is advice from a father to his son about taking a wife (which has become a proverb)—*meaning:* Do not seek so much for a handsome person, who may cause you trouble, for you may be better off and dwell quieter with a plain one.

124. *He pirau kai ma te arero e kape.*

The tongue soon detects and rejects (a bit of) rotten or bitter food.  
*Meaning:* Any evil thing may be quickly found out and thrown aside.

125. *Honoa te pito ora ki te pito mate.*

Join the living end to the weak one.  
Used sometimes for raising a weak or impoverished chief or tribe, by alliance or marriage with a stronger one.  
An allusion is here made to the ends of *kumara*, or sweet potatoes; in planting, they make use of the sprouting end of the root as seed, and so, sometimes, place two such ends in one little hillock to make sure of plants.

126. *Honoa te pito mata ki te pito maoa.*

Eat together (*lit.*, join) the underdone end with the nicely-cooked end (of the sweet potatoes, *understood*). [133] *Meaning:* Don't be too nice.

127. *Kai mata whiwhia, maoa riro kee!*

Food underdone (is) your own (*lit.*, possessed), fully-cooked goes (with others).  
*Meaning:* Be quick at your cooking and eating, or visitors may eat it for you.

128. *Tunu huruhuru, kei wawe tu ana a Puwhakaoho.*

Roast (your bird) with its feathers on; (or your rat) with its fur, lest you be suddenly surprised by an unwelcome visitor.—Here figuratively named Startling-trumpet.  
The meaning of this is the same as the last.

129. *Kakariki tunua, kakariki otaina.*

Eat up the green parrots whether roasted or raw.  
*Meaning:* Be not over nice; as a party travelling in the woods, or going to fight, has no time for much cooking.

130. *Hohoro te kai ma tatou; akuenei tu ana Rae-roa, noho ana Rae-poto!*

Hasten the food for us; soon (the) Long-foreheads (will be) standing (here, when) Short-foreheads (will have to) sit down.  
*Rae-roa*, or Long-forehead, is a name for chiefs; while *Rae-poto*, or Short-forehead, is a name for the common men. I suspect this arose from the old manner of dressing their hair,<sup>476</sup> in which that of the male chiefs was drawn up tightly in front and secured at the top by a knot, or band; while that of the lower people hung loosely down. The New Zealanders, always a hard-working people, were quite alive to the English proverb of “Quick at meat, quick at work.”

**X. AGAINST MAKING MUCH OF SMALL MATTERS.**131. *Kei maaku toku.*

Do not wet my garment.  
*Lit.* Let not mine be wetted: the passive being the more genteel, or mannerly, way of expressing it. The whole saying is, perhaps, worthy of notice:—

*Kei maaku toku kakahu! A, maaku noa atu? Kapaa, he wera ite ahi, ka kino; tena, he maaku i te wai,— horahia atu ki te ra kua maroke!—*

Don't wet my garment! And yet, if it were wet, what then? But if, indeed, it were burnt by fire, that would be bad; as it is, however, merely wet with a little water,—just spread it in the sun, and it is dry again in no time!

*Meaning:* Don't complain of trifles.

In the olden time, when no chief ever raised a cup, or calabash, of water to his lips to drink, but slaves went round giving them water, by pouring [134] it out of a gurgling calabash into the palm of the chief's hand, held beneath his under-lip,—no doubt it was a ticklish matter to give drink to all, sitting closely together, without wetting their scanty clothing. And so, this story, or saying, was invented to ease the poor slave!

Here is another, and a good one, having the same meaning:—

132. *Tineia te ahi! auahi tahi!*

Put out the fire! there's nothing but smoke!  
A sentence, or exclamation, often made, as I have too painfully experienced in their close houses without a chimney! But, again, let us have the whole story:—  
*Tineia te ahi! auahi tahi! Ha! he au uta! Kapaa, ko te au ki Katikati, ae.*

Put out the fire! there's nothing but smoke! Exactly so! but it is smoke on land! If now, it were the whirling currents at Katikati,—then, indeed, you would have something to complain of.

One of the peculiarities of this sentence is the play upon words, which is lost in the translation. The same word (*au*) is used for smoke as for a strong current or rapid; it is also used for the gall of the liver of any

476 WC: Vide plates, 13, 55, etc., in Cook; and in Parkinson, 15, 16, 17, 21.

animal; and frequently for anything very bitter. *Ergo*; Just as smoke is to the eyes, so is gall to the taste, and strong fear or dread to the heart, or inner feelings. Moreover, the name of the place with the fearful rapids is *Katikati* = to bite sharply and quickly; to sting like nettles, thorns, etc.; to draw and pain, as a blister, mustard-plaster, or living "Portuguese man-of-war"—one of the stinging *Medusæ*.

133. *Ka uia tonutia e koe, ka roa tonu te ara; ka kore koe e uiui, ka poto te ara.*

If (the length of the road) be continually enquired after by thee, then it will prove very long; but if thou wilt not keep asking, then it will be short.

*This speaks for itself. It is just the same with us.*

134. *Pipitori nga kanohi; koko taia nga waewae; whenua i mamao, tenei rawa.*

With sharp bird's eyes and quick moving feet, land at a distance will soon be gained.

Similar in meaning to the last—a word of comfort to young, or new travellers.

135. *Imua, ata haere; i muri, whatiwhati waewae.*

Those who leave early on a journey travel leisurely; those who leave late, and have to overtake the others, hurt their feet.

*Lit. Foremost, travel gently; hindmost, break legs.*

136. *Kia noho i taku kotore; kia ngenge te pakihivi.*

Be thou sitting behind my back (*lit.*, anus), and let thy shoulder become weary.

A saying for paddling in a canoe.

*Meaning:* All work has unpleasantnesses. "No gains without pains," [135]

137. *He manga-a-wai koia, kia kore e whitikia?*

Is it indeed a big river, that cannot be crossed.

A saying often used, *meaning:* It is as nothing, why make such a fuss about it.

## XI. AGAINST BEGINNING WAR, ETC.

138. *He kai kora nui te riri!*

War (is like) a devouring fire kindled by a spark.  
(James, III. 5.)

139. *Ka tahuna te ururua ki te ahi, ekore e tumau tonu ki te wahi i tahuna atu ai; kaore, ka kaa katoa te parae.*

When the tangled fern and shrubs are fired, (the fire) will not always be fixed in the place of firing, but will burn up the whole open country.

*Meaning:* The sure extension of warfare.

140. *Kei uta te pakanga, kei tai te whiunga.*

Though the fighting is begun inland, the spreading and finishing will be at the sea, or sea-side.

*Lit.* Inland the fighting, at sea-side the flinging,  
*Meaning:* In war the innocent suffer for the guilty.

141. *E tae koutou ki uta, kei mau ki tai ki Tu, puhia he angina! e mau ki tai ki Noho, ma te huhu e popo, e hanehane.*

When you reach land, do not hold with the fighting-side, or you will be blown away as thin air; but hold with the side of Peace, that you may live long and die naturally.

*Lit.* When you land, do not hold to the standing-side (or the side of *Tu* = god of war), blown away, thin air; but hold to the sitting (or quietly-dwelling) side, for the

worms gradual decay and skin disease.

This is a difficult sentence to render into English; but it is well worth preserving on account of its alleged antiquity. It is said, in their legends, to be the parting advice of an old chief, at "Hawaiki," named *Houmaitawhiti*, to his sons, on their leaving "Hawaiki" for New Zealand. Of course, the meaning is, "Hold fast to peace."

N.B.—Note the opposition in the words *Tu* and *Noho*; *Tu*, standing, and restlessness = War; *Noho*, sitting, and settledness = Peace.

142. *E horo ranei i a hoe te tau o Rongomaitakupe?*

Canst thou level the rocky ridge (or shoal) of Rongomaitakupe?

*Meaning:* Canst thou cause peace when war begins? Rongomaitakupe is an extensive shoal or ridge of rocks, on which a terrible surf is always breaking. Here one is reminded of similar questions in the ancient Eastern book of Job, respecting the taming of Behemoth and Leviathan. [136]

143. *He ika kai ake i raro.*

A fish eats upwards from below.

The fish which you have caught, and is lying dead in your canoe, commenced nibbling from below in the depths of sea, and out of sight.

*Meaning:* From trifling disputes bloody wars arise, ending in the death of chiefs;—often poetically termed *ika* = fish.

144. *Ko Nukutaumatangi, ko te hara; waiho te raru mo Rupe.*

Nukutaumatangi was the cause of all the trouble; but Rupe got caught and punished for it.

Said to a person who gets others punished for his evil doings.

Here, also, from the names, there may be more of meaning than appears at first sight:—Nukutaumatangi = off to windy ridge; Rupe, the opposite (being also a name for their proverbially quiet and harmless pigeon).

145. *Kaua e hinga mai ki runga i a au, kapaa iana he urunga oneone, ko te urunga mau tonu.*

Don't lean on me (as a pillow), if indeed (I were as a) pillow of earth, that would remain firm.

*Meaning:* Don't look to me for help.

146. *Ka tae ki Weriweri, he tohe rara, tona otinga.*

When (two) arrive at (the place called) Angry-dispute, the end is actual strife. (Angry-dispute is here spoken of as a place).

*Meaning:* Keep your temper.

147. *Kaati ra to penei, ka tae kau taaua ki Weriweri.*

Leave off thy (saying, or doing) thus, for you and I have fully come to Angry-dispute.

A timely word of warning; similar to the last.

148. *He tohe taau ki Kaiwere?*

Art thou striving to reach *Kaiwere*?

*Meaning:* Provoke me a little longer and you will be hurt.

149. *Ka karanga Taiha, kia apititutia, kia whana te hingahinga nga tupapaku; ka karanga Maero, E, kawhakina tetahi momo ki te kaaringa.*

Taiha cried, Close ranks with the enemy standing, that their slain bodies may early fall! Maero cried, Better let some retreat as posterity for our possessions!

*Meaning:* Discretion better than rashness.

"The better part of valour is discretion."—  
Shakespeare.

150. *Ka riri Taiha, ka kata Maero.*  
When Taiha (is) angry, Maero laughs (*or* is merry).  
*Meaning:* Keep your temper. [137]
151. *I paia koia te reinga?*  
Is the entrance to the lower world barred (*or* closed)?<sup>477</sup>  
Said to one desirous of war.
152. *He iti tangata e tupu; he iti toki, e iti tonu iho.*  
A little human-being will grow; a little stone-axe  
always continues little.  
N.B.—An axe (though only of stone) was formerly  
among the most valuable of their goods. Cook says,<sup>478</sup>  
he could not get the New Zealanders to sell him any of  
their stone axes, not for anything he had in his ship.  
*Meaning:* A man is of more value than any property.
- XII. CONCERNING CONDUCT IN TIME OF WAR, ETC.**
153. *I nga ra o te pai, hei pai; i nga ra o te kino, hei kino.*  
In times of peace dwell peacefully; in times of war be  
brave.  
Or, In the good days be good; in the evil days be evil.  
Here, again, is a double play on words which possess  
much meaning.  
"In peace he was the gale of spring,  
In war the mountain storm."
154. *Ruia taitea, kia tu ko taikaka anake.*  
Shake off the sap-wood, and let the hard heart-wood  
only stand.  
In a *totara* tree (*Podocarpus totara*) the *taitea* is the  
outer, white or sapwood, which soon decays, and near  
the centre is the *taikaka* or hardest wood.  
*Meaning:* Let the common people and children stay at  
home, and the warriors only go to fight.
155. *Rangitihī upoko i takaia ki te akatea.*  
Rangitihī's head was bound up with the white-  
flowering creeper (*Metrosideros albiflora*).  
This hero of old, when his skull was split with his  
enemy's club, had it bound up with this creeping shrub,  
and, although his men had retreated, led them on again  
to battle, and gained the day.  
*Meaning:* The truly brave man never despairs.
156. *Ko te upoko i takaia ki te akatea.*  
The head which was bound with the white-flowering  
creeper.  
Used for a brave warrior:—He binds up his head, or  
wounds, and fights away.  
A proverb similar to the last, and from the same  
incident. [138]
157. *Ka mahi te tawa uho ki te riri!*  
Well done *tawa*-kernel fighting away!

158. *He tawa para! he whati kau taana!*  
A *tawa* pulp! he only runs away!

These two proverbs I have taken together, on account of  
their simile. The *tawa* tree (*Nosodaphne tawa*) bears a large  
purple fruit, in which there is a single stone or kernel, not  
wholly unlike that of the *date*; this is exceedingly hard, and  
cannot easily be broken; the pulp or flesh of the fruit is very  
soft when fully ripe; hence, from the *one* fruit, the  
comparison is drawn of the hero and the coward.

159. *Te waka pukatea; te waka kohekohe.*  
The canoe (made of the) *pukatea* tree; the canoe (made  
of the) *kohekohe* tree.  
The wood of those trees is alike soft, and won't last  
long in the water; besides canoes made of them are  
both heavy (when water-logged) and slow. *Pukatea* =  
*Atherosperma novae-zelandiae*; *Kohekohe* = *Dysoxylum spectabile*.  
This proverb is used of cowards.

160. *He hiore hume!* and, *He whiore hume tenei tangata!*  
Both terms derived from dogs, which clap their tails  
between their legs and sneak away. Used also of  
cowards.

161. *Titiro to mata ki a Rehua, ki te mata kihai i kamo.*  
Look up with thine eyes at the planet Mars (or Jupiter),  
at the eye which never twinkles.  
*Meaning:* Never allow your eyes to wink when face to  
face in hand-to-hand combat.

162. *He koura koia kia whero wawe?*  
(Art thou) indeed a crawfish, to turn red, the moment  
(thou art) thrown on the fire?  
Said to a foe in hand-to-hand encounter, who boasts  
you have not yet hurt him.

163. *Tini whetu, e iti te pokeao.*  
The stars are many, but a little black cloud hides them.  
*Meaning:* A small party of determined warriors may  
beat a large number.

164. *Ma wai e rou ake te whetu o te rangi ka taka kei raro?*  
Who can reach (or scrape) with a crooked stick the  
stars of heaven that they should fall below?  
*Meaning:* Can you take captive a powerful chief?

165. *He mate i te marama.*  
The moon dies, *or*, it is of the nature of the moon to  
wane or die, (and returns again, *understood*).  
*Meaning:* Not so, however, with you; so beware of  
rashness. [139]

166. *Kia mate a Ururoa! kei mate Tarakihi.*  
Let us die fighting bravely, as the fierce shark, *Ururoa*,  
struggling to the last! and not die quietly like the fish  
*Tarakihi* (*Cheilodactylus macropterus*).

167. *He pokeke Uenuku i tu ai.*  
By means of the dark cloud the rainbow is seen to  
advantage brightly.  
*Meaning:* A chief looks well at the head of a large  
tribe.<sup>479</sup>

168. *Me te koteo mau kupenga!*  
Like the post in the sea to which the ends of the net are  
fixed to keep it open.  
Said of an able chief whose influence keeps his tribe

477 WC: So Virgil:—"facilis descensus Averno; Noctes atque dies patet atri janua Ditis."—Æn., lib. vi. (which Dryden freely translated as  
The gates of hell are open night and day;  
Smooth the descent, and easy is the way.—Ed.

478 WC: First Voyage, Vol. III., p. 464.

479 WC: Vide Prov. No. 11, ante.

- together, so that their enemies are finally enclosed and taken, as fish in a net.
169. *E moe ana te mata hii tuna, e ara ana te mata hii taua.*  
Sleeping are the eyes of the eel-fisher; wakeful are the eyes of the war-fisher.  
*Meaning:* That the eyes and thoughts of the fisherman enjoy peaceful rest at nights, and he even nods between his bites when fishing; but those of the planner and conductor of battles know no rest.
170. *Tatai korero i ngaro; tatai korero e rangona.*  
Concerted schemes are hidden = come to nothing; concerted plans are heard = carried out.  
*Meaning:* Only those schemes which are agreeable to the tribe will be attended to.
171. *Hinga iho, tomo atu te pa.*  
(The enemy), falling (before you), enter the fort.  
*Meaning:* Follow up quickly an advantage; *i.e.*, having defeated the enemy in the open, storm their village.
172. *Te koura unuhanga a Tama.*  
The crayfish which was pulled out (of its hole) after long pulling and working by Tama.  
Tama is said to be one of the first who found out the plan of dislodging crawfish from their holes and using them as food.  
*Meaning:* Not easy to dislodge a warrior from his strong-hold, but got out at last!
173. *Turaungatao e, E pewhea ana te mamae? Taaria iho. Kihai he hangahanga ake te kai a Turaungatao!*  
O Stand-against-a-hundred-spears, what kind of pain (is caused by a wound in battle)? Wait a while. It was not long (before he knew) the food of Stand-against-a-hundred-spears. [140]  
This question is supposed to be put by a young man before the battle begins to an old warrior, and half slightly. After the battle is over, and the young fellow wounded, the veteran says to him, "Ah! You thought that what I had had so much of (*my food*) was a trifle, did you? What think you now?" He jests at scars that never felt a wound."—*Shakespeare*.
174. *E! ho te matakahi maire!*  
Lo! the iron-wood wedge!  
Used of a warrior.  
*Meaning:* He separates the enemy before him, as the wedge of the hard *Maire* wood (*Santalum cunninghamii*<sup>480</sup>) splits up a log.
175. *E tia! me te wheke e pupuru ana!*  
Though stabbed through (with my spear), he holds on (to it) like a cuttle-fish with its arms and suckers.  
Said by a warrior of his hand-spear in fight.
- Another saying of similar meaning:—
176. *Me te mea kei te paru e titi ana!*  
As difficult to pull my spear back out of his body as if I had stuck it into sticky holding mud.
177. *Waiho i te toka tu moana!*  
Stand firm and compact as the surf-beaten rock in the ocean!  
Used by a chief in battle.
178. *Waiho kia oroia, he whati toki nui.*  
Just leave the big stone axe to be re-sharpened, its edge is merely chipped a bit.  
*Meaning:* Though some of the braves of our tribe are killed, the remnant, including the chief, will fight the more fiercely.
179. *Ekore e ngaro, he takere waka nui.*  
The hull of a large canoe cannot be hidden.  
*Meaning:* Although we have lost many in battle, we shall not become extinct; our tribe is numerous.
180. *He puia taro nui, he ngata taniwha rau, ekore e ngaro.*  
A cluster of flourishing *Taro* plants (*Colocasia antiquorum*), a hundred devouring slugs, or leeches, cannot be extirpated = It is difficult to destroy them all. So with a large tribe.
181. *Kore te hoe, kore te taataa.*  
Alas! without paddles and baler!  
A canoe in this state must be lost. Applied to a tribe in a helpless state.
182. *He pukepuke maunga, e pikitia e te tangata; he pukepuke moana, e ekeina e te waka; he pukepuke tangata, ekore e pikitia e te tangata.* [141]  
The mountain's summit can be climbed by man; the waves of the ocean can be topped by a canoe; the human mount cannot be scaled by man.  
*Meaning:* If he had sought shelter on the mountain, or at sea, we could have followed him; but being sheltered by a great chief, we cannot follow him there. N.B.—Note the play on the three mounts—pukepuke; which are wholly lost in translation.

### XIII MISCELLANEOUS.

183. *I motu mai i whea? te rimu o te moana.*  
Whence was the drifting sea-weed torn?  
Sometimes used of a stranger.
184. *He rimu pae noa!*  
A sea-weed driven about!  
Used by a wanderer concerning himself. I have known this saying used in a very melancholy way by a young man, a lover, when discarded by his love, and he travelling from place to place to forget his grief. It struck me as being very poetical.
185. *I taia to moko ki te aha?*  
To what purpose was your face tattooed?  
A cutting sarcasm to a finely tattooed man, when he acts cowardly or meanly. As only nobles and chiefs were tattooed.
186. *Kapaa ianei he matua whare e hinga ana, ka hangaa ano, kua oti; ano ko te marama kua ngaro, kua ara ano.*  
If indeed your father had fallen like a house, then he could be raised again and finished anew; or if he were as the moon and died, then he would return again.  
This saying was too often used by the watchers around a dead chief to his children, to keep up their incessant wailing for their father.
187. *Ka tata ki a koe nga taru o Tura!*  
The weeds of Tura are near thee!  
*Meaning:* Thou art getting grey-haired. Tura was a grey-headed man of old; his story is a highly curious one.

480 WC: But, at the south parts of the North Island, Maire is the Maori name of the Olea Cunninghamii.

188. *Ka ruha te kupenga, ka pae kei te akau.*

When the fishing-net gets old, it is drifted on the shore.  
Said by an old woman to her husband who neglects  
her.

Another of similar meaning:—

189. *He kaha ano, ka motumotu!*

A rope indeed, but become old and broken up!  
*Meaning:* My beauty and strength are gone, I can no  
longer serve you. You love a younger wife. [142]

Another of like meaning:—

190. *Kua pae nei hoki, te koputunga ngaru ki te one.*

The white foam of the surf is cast up and left on the  
shore.  
Said by a woman getting grey-haired, when her  
husband seeks a new wife.

191. *Ka tangi te pipiwharauroa, ko nga karere a Mahuru.*

The cries of the glossy cuckoo are the heralds of  
warmth (*or spring*).  
The little cuckoo (*Cuculus lucidus*) is a migratory bird,  
and arrives here in early summer.

192. *Penei me te pipiwharauroa.*

Like the glossy cuckoo (in his actions).  
Applied to a man who deserts his children; as this bird  
(like the English cuckoo) lays its eggs in another bird's  
nest, and deserts them.

I give now a few (out of many) short and beautiful  
proverbial sayings, mostly poetical, and used by the New  
Zealanders in their songs:—

193. *Me he korokoro tuii*

As eloquent as the throat of the *tuii* (the sweet-singing  
“parson-bird”).

194. *Me he manu au e kakapa!*

I'm all of a flutter like a poor caught bird!

195. *Me he mea ko Kopu!*

(She is) as beautiful as the rising of the morning star!

196. *Me he takapu araara.*

As beautiful as the silvery, iridescent belly of the  
*araara* fish (*Caranx georgianus*) when first caught.  
Ancient European poets have thus spoken of the  
dolphin.

197. *Me he toroa ngungunu!*

Like an albatross folding its wings up neatly.  
Used of a neat and compact placing of one's flowing  
mats or garments.

198. *Me te Oturu!*

Her eyes as large and brilliant as the full moon rising  
over the dark hills in a clear sky.

199. *Me te rangi ka paruhi.*

Just like a delightful tranquil day; *or*, a fine calm  
evening.

200. *Moku ano enei ra, mo te ra ka hekeheke; he rakau ka  
hinga ki te mano wai!*

Let these few days be for me, for the declining sun; a  
tree falling through many floods of waters.

*Meaning:* Be kind and considerate to the aged.

Used by the old, and often with effect; of which I knew  
a remarkable instance that happened in 1852, when Mr.  
Donald McLean, the Land Purchase Commissioner,

paid the chief Te Hapuku, the first moneys for lands  
[143] at Hawke's Bay. An old chief, named Te Wereta,  
who resided at Wharaurangi, between Castle Point and  
Cape Palliser, uttered these words, and he got a lion's  
share of that money—and he lived more than twenty  
years after.

Another of similar meaning:—

201. *Maaku tenei, ma te ra e too ana. He aha kei a koe? Kei  
te ra e huru ake ana.*

Leave this for me, for the setting son. Why shouldst  
thou care about it? the sun just sprouting up (*or*  
beginning life).

I scarcely recollect a single instance of those words  
being advanced by the aged, (in former years), and not  
heeded by the younger folks. It always seemed, to me,  
to form an admirable trait in their character; one, no  
doubt, grounded on ancient custom.

202. *Whangaia ta taaua tuahine, he tangi i a taaua.*

Let our little sister be fed and nourished, to mourn over  
you and me (when we die).

*Meaning:* That a widow's mourning is soon over, for  
she marries again; but with a sister it is lasting and  
true.

This is also eminently shown in the Greek tragedies, by  
Antigone and Electra.—*Sophocles*.

203. *Taku hei piripiri, taku hei mokimoki, taku hei tawhiri,  
taku katitaramea.*

My necklace of scented moss; my necklace of fragrant  
fern; my necklace of odorous shrubs; my sweet-  
smelling locket of *Taramea*.

This affectionate and pretty distich was often sung to a  
little child when fondling it, expressive of love. A short  
explanation may be given of the four plants mentioned  
in it. *Piripiri* is a fine horizontal moss-like *Hepaticæ*  
(*Lophocolea novæ-zealandiæ* and other allied species)  
found in the dense forests; *Mokimoki* is the fern  
*Doodia caudata*; *Tawhiri* is the shrub, or small tree,  
*Pittosporum tenuifolium*; *Taramea* is the Alpine plant  
*Aciphylla colensoi*. From the two last a fragrant gum  
was obtained; that, however, from the needle-pointed  
*Aciphylla* only through much ceremony, labour, and  
trouble,—and, I may say, pain,—gently indicated in  
the prefix given to it in the chant—*kati* = sudden  
sharp prick, or puncture. All those scents were much  
prized by the New Zealanders, who wore them, in little  
*sachets* suspended to their necks.

204. *E iti noa ana, na te aroha.*

(The gift) is very small indeed, still (it is given) from  
love.

205. *To Kakawai ngako nui, aroaro tahuri kee.*

Ah! you take my fine fat *Kakawai* fish (*Arripis* *salar*),  
but you turn away your face from me.

Applied to one who receives presents, but returns no  
love. [144]

206. *He manu aute e taea te whakahoro!*

A flying-kite made of paper mulberry bark can be  
made to fly fast! (away, by lengthening the cord).  
Used by a lover, expressive of impatience at not being  
able to get away to see the beloved one.

207. *Na to tamahine ka pai i takina mai ai tenei kekeno ki  
konei.*

It was thy exceedingly pretty daughter which drew this  
seal to land here.

This speaks for itself, and would be doubly suitable for such a person coming by sea; in the olden times most visits were made by water.

N.B.—The verb *taki* (pass. *takina*), means to forcibly draw a captured fish to land out of the water.

208. *E kimi ana i nga kawai i toro ki tawhiti.*

(He is) seeking after the tips of running branches which extended to a distance.

Used with reference to any one claiming distant or lost relationship.

N.B.—The terms used for runners, or running branchlets, and their spreading, are taken from those of trailing plants, as the convolvulus, gourd, etc.

209. *E raro rawakore, e runga tinihanga.*

Poor and without goods are those of the North; abounding in wealth are those of the South.

This proverb, which in former times I have often heard is used, is peculiarly a Northern one, and requires explanation. The most esteemed goods—the real personal wealth of the ancient New Zealanders—were greenstone—unworked or worked—as axes, war-clubs, and ornaments; finely-woven flax garments; totara canoes; and feathers of the *huia* bird (*Heteralocha gouldi*). These were all obtained from the Southern parts; so were the skilled carvers in wood (males), and the best weavers of first quality flax garments (females), who were sometimes made prisoners of war.

210. *He karanga kai, tee karangatia a Paeko; he karanga taua, ka karangatia a Paeko.*

At a call to a feast, Paeko is not called; At a call to a fight, Paeko is called.

Used evidently by an inferior, though a good man at fighting, etc. Note the name, which may be translated, Keep them off. "Rich man has many friends".

211. *E hoki te patiki ki tonu puehutanga.*

The flounder returns to its own thick, muddy water (to hide itself, understood).

212. *Puritia to ngarahu kauri!*

Keep (to thyself) thy kauri-resin soot! [145]

This saying was used when a person was unwilling to give what was asked, the same being some common thing and not at all needed by the owner.

Soot from burning kauri-resin (a genuine lamp-black!) was carefully collected in a very peculiar manner and only by much pains, and buried in the earth placed in a hollowed soft-stone, where it was kept for years, and said to improve in quality by age; it was used as a black pigment in tattooing. But there is a double meaning here, viz.: You may never require it, or live to use it!

213. *Waiho noa iho nga taonga; tena te mana o Taiwhanake.*

Leave (your) goods anywhere; here is the power and might of the Rising-tide.

Used to strangers, to show, that the people of the place were honest, etc., and under their chief, who is figuratively called the Overwhelming Sea or Rising-tide.

214. *Te aute tee whawheia!*

The paper mulberry bark is not blown away by the winds.

*Meaning:* Peaceful times; all going on well; no disturbances.

The bark of the paper mulberry shrub, or small tree, (*Broussonetia papyrifera*) which was formerly cultivated by the ancient New Zealanders, and used as a kind of white cloth ornament for the hair, was, after being beaten and washed, etc., spread out to dry in small pieces, but only in fine, calm weather.

215. *Haere mai ki Haurahi, te aute tee awhea!*

Come hither (to us) to Hauraki, a district in the Thames, where the prepared paper mulberry bark is not blown away (or disturbed) by the winds while drying and bleaching.

A proverb of similar meaning to the last one.

216. *Haere i mua, i te aroaro o Atutahi.*

Go before the presence (or rising) of (the star) *Atutahi*; or, Work away diligently in advance of the appearing (of the star) *Atutahi*.

Formerly used (1.) concerning the proper time of annual friendly visiting,—viz., in the autumn, when food is plentiful, and before the frosts set in; (2.) also (and more commonly), for the early digging and storing securely in their neatly-built storehouses of their precious *kumara* crop, on which so much depended; which roots if but slightly touched by frost, rotted. The star *Atutahi*<sup>481</sup> rises in April, and was to them indicative of the season of approaching frosts. [146]

217. *Rehua pona nui!*

Rehua (causing) big joints!

Rehua is one of the larger planets (possibly Mars or Jupiter), and when seen in summer, in time of heats and droughts, this saying is used; as then men grow thin (substantial vegetable food being scarce), and their joints protrude and look large. Rehua is a famed star (planet) with the old New Zealanders,—many things are said of it; some of which, however, belong to a noted chief of that name of the olden time. (Vide proverb 161, ante).

218. *Takurua hupe nui!*

Takurua (causing) watery nose!

This saying is in opposition to the last one, conveyed in the same semi-metrical manner, and is highly expressive of the cold raw weather in winter. Takurua being also one of their names for the winter season (indeed with the Southern Maoris the only one), at which time the old Maoris, slightly clothed, must have suffered much annoyance in the way alluded to. *Takurua*<sup>482</sup> is the name of a star which rises in the winter.

219. *Ka mate he tete, ka tupu he tete.*

One duck dies, another duck is hatched. (*Spatula variegata*.)

*Meaning:* Man dies, and another comes in his place. Reminding of Homer (*Iliad VI.*):—"As is the race of leaves, such is that of men; one springs up and the other dies." And of our English saying:—"As good fish in the sea as ever came out of it."

220. *He huruhuru te manu ka rere: he ao te rangi ka uhia.*

When the bird has feathers it flies away; when the sky has clouds it is obscured.

481 WC: See a future paper on the astronomical lore of the old New Zealanders.

482 WC: Note on preceding page.

*Lit.* The fledged bird flies; the clouded sky (is) covered.  
*Meaning:* Great changes soon arise. Circumstances alter cases.

### XIII A FEW VERY BRIEF AND PITHY SAYINGS (AS A SAMPLE).

221. *Rae totara* = Forehead as hard as the *totara*, wood. Spoken of a liar; and of an unabashed, shameless person. Equivalent to our English Brazen-face.
222. *Tou tirairaka* = Flycatcher's tail (*Rhipidura flabellifera*). Said of a restless person who does not sit quietly in his place at their more important meetings.
223. *Arero rua* = Double tongue.
224. *Ngakau rua* = Double mind. Both spoken of a false promiser; of a person who says one thing, yet means another.
225. *He ringa whiti!* A quick ready hand, at reaching out, across, or over. [147]
226. *He tangata tunu huruhuru!* One who roasts (his bird or rat) with its feathers or hair on. Both said of a hasty quarrelsome person.
227. *Ka kata a Kae!* Kae laughs. Sure to be said when a cross person smiles; or when a person discloses unintentionally his thoughts. Derived from their old legends.<sup>483</sup>
228. *Whakawaewae wha!* Make (thyself) four legs (first)! Used, ironically, to a person who boasts of what he can do.
229. *Nga huruhuru o oku waewae* = Hairs of my legs. Used reciprocally: (1) By a chief, of his tribe and followers; and (2) by them of him, by merely changing the pronoun *oku* to *ona*. In this latter sense I have known it to be used beautifully and with great effect.
230. *Ka rua hoki!* = Twice also! *Meaning:* Thou hast just said the contrary; two (opposite statements) indeed!
231. *Naana ki mua* = He began it. A sentence of great service formerly, in relating quarrels, etc., and always highly exculpatory.
232. *He kowhatu koe?* and, *He kuri hoe?* Art thou a stone? and, Art thou a dog? Used, generally, interrogatively, by way of prohibition, disapproval, etc., but, sometimes, with care, indicatively.
233. *He o kaakaa!* A small bit of food for a journey. *Lit.* A parrot's morsel for its flight. The old Maoris said, that the parrots always carried with them in one claw a small stone which they constantly nibble.

483 WC: See Grey's Polynesian Mythology, p. 90.

234. *He marutuna!* = Bruised or squashed eels! Said of any person or thing, ugly, displeasing, or repulsive.
235. *He kupu matangerengere!* A harsh or disagreeable word, sentence, or speech. *Lit.* A word (having a) hideously ulcerated face.

### 1879 A few remarks on a cavern near Cook's Well at Tolaga Bay and on a tree (*Sapota costata*) found there.

*Transactions of the New Zealand Institute* 12: 147-150.

[Read before the Hawke's Bay Philosophical Institute, 8th September, 1879.]

IN reading Professor Von Haast's address to the Philosophical Institute of Canterbury, New Zealand,<sup>484</sup> which contains a full account of some "peculiar [148] ancient rock-paintings in a cave or rock shelter in the Weka Pass" ranges in that provincial district, accompanied by a plate of the same,—I, at once, thought on what Polack had written, some forty years ago, of some drawings he had noticed in a cave at Tolaga Bay, where Cook had landed and watered in peace. And, bearing also in mind, what a few of the oldest Maoris there had personally told me of Cook, on my first visit to Tolaga Bay, in January, 1838 (when I also saw the hull of Polack's broken vessel), I, naturally, very much wished to know more of this cavern and its drawings; likewise of a very peculiar tree growing there, which Polack also particularly mentions. And finding that my friend, Mr. Locke, who is also a member of our Society, was going thither last summer, I requested him to ascertain, by personal inspection, all he could as to the cavern and its drawings, and the tradition about it, and, also, the said tree; and, if possible, to bring me—on his return to Napier—a specimen of this latter. This, I am happy to be able to say, Mr. Locke has since done; but before I give you his information, I will just quote from Polack's work, as his remarks here are good and brief.

Polack says: "Kani<sup>485</sup> requested me to accompany him next day to Opoutama, near the south entrance of the bay, where we should walk over the same ground and native paths that existed in the time of Cook, and which had been traversed by him. The following morning we did so. ... Soon after our landing we reached the indent of Opoutama, beautifully situated in a dell, encircled by rising hills covered with a variety of shrubby trees. ... One tree was pointed out to me as peculiar to this spot, and stated by the natives who accompanied me, and whose residences were at far distant settlements on the coast, as growing only in this valley; it was in height thirty-five feet, with spreading branches, frondiferous, and of a similar colour to a species of *Phyllanthus* that is found in large quantities near the beach. The tree is nuciferous, and bore at the time clusters of early

484 WC: Trans. N.Z. Inst., Vol. X., pp. 37-54.

485 WC: Te Kaniotakirau, long the principal chief. I, also, saw him on several occasions; his father, Rangitumamao, did not see Cook, but his grandfather, Whakataraoterangi, who was then the principal chief there, received Cook and his party.

berries, which, when in a mature state, are dried by the natives, and used as beads."

"The chief now wound his way up the side of the hill, followed by myself and the friends who accompanied us. We were arrested in our progress half way by a cavern (*ana*), which stopped our further progress. Its arch was remarkably high, but of little depth; it was similarly argillaceous as the caves we had seen below in the bay. Kani enquired if I felt gratified, adding: '*E koro, tenei ano te ana no Tupaea*' = This, friend, is Tupaea's cavern. I learnt that in this cave the favourite interpreter of Cook slept [149] with the natives:—'he was often in the habit of doing so during the heats of the day with his native friends, as is the wont of the New Zealanders,' said my conductor;—'Tupaea was a great favourite with our fathers, so much so, that to gratify him, several children who were born in the village, during his sojourn among us, were named after him.'<sup>486</sup> A few yards in front of the cave is a small hole that was dug in the granite (*sic*) rock, by order of Cook, for receiving from a small spring the fluid that unceasingly flows into it. The marks of the pick-axe are as visible, at the present day, as at the period it was excavated under Cook's eye. The water had overflowed this useful little memorial of our illustrious countryman, was pellucid and very cold. The sun had not penetrated this sequestered spot for many years, from the umbrageous *kahikatoa* and other trees that surround it.

"Around the surface of the cavern are many native delineations, executed with charcoal, of ships, canoes sailing, men and women, dogs and pigs, etc., drawn with tolerable accuracy. Above our reach, and evidently faded by time, was the representation of a ship and some boats, which were unanimously pointed out to me, by all present, as the productions of the faithful Tahitian follower of Cook, (Tupaea). This, also, had evidently been done with similar materials. This cavern is made use of as a native resting place for the night, as the villages of Uawa are at some considerable distance from Opoutama; it is mostly in request by parties fishing for the *Koura* (crawfish) and other fish, which abound in all these bays."

Mr. Locke visited the cavern and inspected it, and found that while it bore ample marks of old "delineations" such were so worn and defaced by the incessant action of the elements, and also so high over head, as to be scarcely discernible. The traditions, however, of the Maoris, respecting them and the place, were quite in keeping with Polack's relation. The perennial spring was still there, and bore its old and never-to-be-forgotten name of "*Te wai kari a Tupaea*" (the well dug by Tupaea).<sup>487</sup>

Mr. Locke also brought me a branch of the said *single* tree, which at the time of his visit was unfortunately neither in flower nor fruit. However, it was sufficient for me to identify it as being *Sapota costata*, a tree which I had first noticed in flower at Whangarei Bay, in 1836, and in fruit at Whangaruru Bay, further north, in 1841. It had been also found by Mr. R. Cunningham, still further north, in 1834, on the shores opposite the Cavalhos Islands, between the Bay of Islands and Whangaroa, and it has since been also found at Kawau, and on some other of the islets in the Firth of the

486 WC: On my arrival in New Zealand I found several natives bearing his name, mostly on the East Coast.

487 WC: A farther proof of the term by which Cook and his first visit to New Zealand was everywhere known. Vide Trans. N.Z. Inst., Vol. XI., p. 108.

[150] Thames; but this is the only instance of this tree being found so far south, and I am inclined to think this to be its utmost south range; the genus, and indeed the whole Natural Order, being tropical plants. The Maoris informed Mr. Locke that another tree of this kind grew also at Kaiawa, a little further north, and that anciently the fruit, or seed, was used as beads for necklaces: for which purpose, and by a rude people, they were pretty well adapted, from their uniform size, and possessing an agreeable glossy appearance, and having a small hole at the end in the *testa*, which might also have given birth to the notion of boring and threading.

As I find that Sir J.D. Hooker, in describing this genus, *Sapota*, has spoken of its fruit as a "berry with one nut-like seed,"<sup>488</sup> I will also give my short description of it, as written on detecting it (a second time), 36 years ago; as such may be of service to future botanical collectors and observers:

"On the high south headland of Whangaruru Bay, near which we landed, I discovered a clump of small trees bearing a handsome fruit of the size of a large walnut. Each fruit contained *three* large shining seeds, somewhat crescent-shaped, and having the front as it were scraped away. Its leaves are oblong, glabrous, and much veined, and its young branches lactescent. I have little doubt but that this tree will be found to rank in the Natural Order *Sapataceæ*, and probably under the genus *Achras*. The natives call it Tawaapou."<sup>489</sup>

This, also, was its name as given by the Maoris of Tolaga Bay to Mr. Locke.

## 1879 Notes and observations on the Animal Economy and Habits of one of our New Zealand Lizards, supposed to be a new Species of *Naultinus*.

*Transactions of the New Zealand Institute* 12: 251-264.

[Read before the Hawke's Bay Philosophical Institute, 12th May, 1879.]

HAVING had ample opportunities, during the past year, of observing the habits and manners of these elegant little animals in a state of captivity, and believing all such to be almost wholly unknown, I have thought it desirable to give a pretty full description of the same; seeing, too, that I succeeded better in rearing and keeping alive these lizards than I did with the larger one, *Hatteria punctata* (or *Sphenodon*), in 1840.

In the winter of 1878, I received a glass jar from Hampden, in this provincial district, containing three full-grown living green lizards. They were pretty nearly alike in size; two of them were spotted with large irregular-shaped light-green spots, or markings, and one was wholly green. They had been found together, a short time before, in a hole, with a

488 WC: Handbook, N.Z. Flora, p. 183.

489 WC: Vide Tasmanian Journal of Natural Science, (1843) Vol. II. p. 299.

fourth, which was accidentally killed; and, on their capture, were put carefully into a jar, and packed loosely in moss. On my receiving them I found them apparently very well, but unwilling to move or to face the light, seeking to bury themselves more and more in their mossy bed, so I left them alone, believing they were hyberating. Meanwhile, I made many enquiries, by letter, as to their "hole," its linings, etc., but gained little reliable information, save that "in it, and with them, was a lot of stuff like blasting powder;" this, I have reason to believe, was the faecal debris. I greatly regretted the loss of the fourth, as I think that would have proved to be a green male.

During the winter I looked at them three or four times, but they always acted in the same manner, as if averse to having their quiet sleep disturbed. On again looking at them early in October, I found them wholly altered; they were now desirous of coming to the light, restless, and pawing against the glass, and had increased in number, having four little ones! two being spotted with white, and two entirely green; their lovely little bodies looking as if cased in silk velvet instead of scales; this appearance continued for some weeks. I now lost no time in removing them to more suitable [252] lodgings, placing them under a circular glass dome, of 10 inches diameter, with a few leafy twigs of koromiko (*Veronica salicifolia*), and giving them water in an oblong flint-glass salt-cellaret, which, from its form and thickness, they could not upset. I knew they must be hungry, and I tried them with several things in the way of food, as bits of meat, both raw and cooked, of various fruits, of bread, of succulent roots and vegetables, and with small larvæ (caterpillars), but nothing would they touch. At last, as the warm weather came on, I tried them with a few flies, which were killed, or made motionless, in catching, these, also, they would not touch, or even look at. At length I put some living flies into their crystal palace, and these they soon caught and ate—that is the three adult lizards. For a long time I sought in vain for very small tiny flies for the young ones, and when I did succeed in getting a few, it was some time before the baby lizards managed to catch and swallow any (although the little things pursued them with longing eyes!) as the fly, when caught, in struggling, would often escape out of their tiny mouths, which was the more easily effected through the lizards not having any teeth to hold by, and the powers of the young ones were but feeble through their long fasting. One day I happened to give them three or four of the large red-brown viviparous flesh-fly (*Musca laemica*), thinking the large lizards, at least, would now have a good meal, and when I was not a little surprised to see them scuttle about in all directions, wholly turning away from these flies, and apparently endeavouring to hide themselves (or their heads) among the koromiko leaves. For some time I did not understand this new movement, and I subsequently noticed, that while some of these red-brown flesh-flies were eaten (being gone), others were left dead on the floor of their cage.

Early in November I was sorry to observe that the young ones, although all four had grown rapidly in length, were daily becoming more weak, especially the two entirely green ones; this, of course, was owing to their not eating. On the 3rd of November one of the young green ones died. At this time, too, the head of one of the adult lizards (as I believe, the female one) swelled much, changed to a livid colour, and grew to an unshapely size, with a bloody discharge distilling from its ears. I thought, that something being the matter with its head, the other lizards in their scrambling about over each other (which they commonly

do) had fixed their sharp claws in its ears, being now tender, and so caused them to bleed, &c. The sick lizard, however, was very patient under it; and as its disorder increased, the skin of its head became more and more stretched with the swelling, and great and irregular throbings or undulations were very apparent. (Here I should mention, that the regular pulsation in their throats is always prominently seen). And so, as this diseased lizard became offensive, [253] yet still living (though not eating), dirtying the others with its discharges, *anal* now as well as *aural*, I threw it out into the field.

On the 16th November I looked at my lizards, as usual, in the morning before going to town, and found them right; but on my return, at one o'clock, p.m., the biggest spotted one (which I believe to be a male) had cast its skin!—or epidermis!—it was nearly all got off, and almost entire. I helped it, by holding its scurf, to draw out its tail. I was much pleased at this for several reasons—some I may here mention: (1.) The beautiful new sparkling vivid green colour of the animal! now, for the first time seen in its living beauty. (2.) The cast-skin, or scurf, truly a curious object; showing, not only every scale, and joint, and spot, and marking, including the little fingers of its tiny gloves close down to its claws; but, also, the very outer skin or film of its labial scales, and of its eyes. (3.) The cast skin was not at all coloured green like the animal, but was merely of a light grey colour with lighter patches corresponding with its large white spots. (4.) It had commenced breaking away under the chin, and so peeled off from its snout regularly down its back and body to the tip of its tail. (5.) I might now expect to know something certain of this animal's economy (and of its congeners), as to how often in the year it would cast its skin.

One of the spotted young ones (which I shall term No. 1.) also cast its skin on the 6th December; like that of the large male it commenced at the snout, but it came away in fragments—perhaps owing to its being both young and tender.

On the 8th December the second young green lizard died, just as the former young one died, from starvation. This one had, in common with the two young spotted ones, plenty of small flies (now more easily obtained as the summer advanced), but it wanted the power to catch any.

About the 12th December the two remaining adult lizards seemed to be getting into a diseased state; the handsome male, which had so lately shed its outer skin, had something the matter with its ear, from which a bloody discharge was oozing (resembling in a smaller degree the early diseased state of the adult one that died), while the adult female was restless, swelled in the lower abdomen, and discharging a bloody mixture from its anus; finding this one getting rapidly worse, with its anus greatly swelled and blotchy—starred all round the margin as it were in a curious regular manner—I lost no time in putting it into a bottle of spirits, and, on my going to look at it some ten minutes after, I found, to my astonishment, no less than 26 large living larvæ of that red-brown flesh-fly had been discharged from its anus! These were each 5 lines long, and it was their posterior ends compacted together and jutting out from the lizard's anus which had given it in that part its peculiar appearance. Now it flashed across my [254] mind,—their evident dislike and dread on their first seeing that flesh-fly in their cage; and that this was also the cause of the death of my first lizard, into which the living larvæ had been deposited through its ears! causing its head to possess and

show those ugly, unnatural throbings or semi-undulations. I now hastened to the adult male lizard, and caught it, and on gently squeezing its head I saw the posterior end of a larva presenting itself within its ear; I took a needle and extracted it; it was much larger than those in the spirits, and gorged with blood. After this the male lizard soon recovered and became lively, though that aural orifice completely closed up, and so remained until the next shedding of its skin, when I was glad to find that it resumed its former appearance. From the time of this discovery I was careful not to give them any more viviparous female flesh-flies, consequently I have had no more similar diseases to notice.

The other young spotted lizard (No. 2) shed its skin for the first time on the 16th December, taking, however, until the 22nd ere it entirely got it off. This little animal interested me much in its undergoing its change of dress; for as the other young one (No. 1) had taken me by surprise, in its early disrobing, I had closely watched this one (No. 2), supposing its turn could not be far off; and first I noticed, that the day before that it began to cast its skin, its whole body assumed a whitish milky appearance, as if it had been dipped into milk and the milk had dried upon it; or, as if it were closely covered with very fine and transparent white muslin; second, just as in the case of the others, the epidermis first broke at the snout and chin, and subsequently gave way over the loins and hind-legs, peeling off in large flakes. After a day or two the lizard seemed to get impatient about the getting-off of its old coat, and every now and then would lay hold of the rags with its mouth and pull away, and sometimes try to force them off with its little claws, but I scarcely ever noticed that it effected anything; it would rub, too, against its water-pot (the salt-cellar), and sometimes against the large lizard, and the koromiko stalks—showing clearly that in their natural state they seek the aid of closely-growing grasses and other small herbage the more quickly to effect their deliverance; at last, on the 22nd, I caught the lizard, and helped it to get off its tattered stockings, gloves, and tail-case, and so put an end to its discomfort.

The big male lizard again shed its skin on the 24th January; this time, however, in fragments, yet done quickly, all being over within two hours. And again this lizard shed its skin on the 15th of March, this time in large pieces; finding that while it had extricated its hind-legs it could not draw out its tail, I caught it and helped it to do so. It was pleasing to see how quietly it remained in my hand, when it found out what I was doing, and how naturally it moved its long tail in an easy wriggling manner, and with [255] strong muscular power pulling against me, so that the whole outer skin of the tail came off, as at first, in one unbroken piece. The cast skin is damp, soft, and slightly clammy, on its being shed, but it quickly dries and hardens.

The young lizard (No. 1) next cast off its skin on the 31st December, having assumed the milky appearance already mentioned the day before; and to my great surprise this same lizard again put on the cloudy milky appearance on the 13th January, and again shed its skin on the following day when its scurf was just a fortnight old! As before, it began to break away at its snout, but on this occasion, somehow, possibly owing to its fineness, it got rolled up together and backwards behind its eyes, giving the animal with its white wig the drollest appearance imaginable, so that I often laughed outright! This time it was very slow in casting off its rags, as parts of its skin were still hanging on its sides on the 24th January—just ten days—when I caught

it and helped it. This lizard again shed its skin on the 1st March, when it was two days in getting it wholly off: often biting it and tearing at it with its claws. The next time it did so was on the 19th April, having assumed the usual milky appearance two days before; on this occasion its old scurf first broke through over its back.

The other young lizard (No. 2) again cast off its outer skin on the 5th February, having the day before put on the peculiar milky appearance.

So that, during the past seven or eight spring and summer months, those three lizards have each shed their epidermis as follows:—

Big adult male, 1878, November 16; 1879, January 24; March 15.<sup>490</sup> Young one, No. 1, 1878, December 6, December 31; 1879, January 14, March 1, April 19. Young one, No. 2, 1878, December 16; 1879, February 5.

Their manner of taking their prey (flies) is peculiar: When the lizard clearly sees the fly, and makes sure it is living, it steals towards it in the most stealthy manner. As the lizard nears the fly, and when within two inches of it, then is the time closely to notice its actions. First it arches its neck to a tolerably sharp angle, and its eyes swell and bulge out, or rather upwards, over their orbits, and the expression of its countenance alters greatly, taking on a fierce look; next it lifts its little hand-like paws and moves them, only a toe or a finger at a time and often in the air, very slowly and cautiously (much like a little child does its hands when stealing along on tip-toe), and then it nears its head towards its prey, but so very slowly that I have better detected its movement by watching its shadow cast on marked paper by strong sunlight,—reminding me of the almost imperceptible movement of the hour-hand of a clock. At last it has got to [256] about one inch, or a little less, from the fly, when as quick as light the dart is made, and the fly is caught; and then the little lizard rapidly knocks about its prey from side to side as a terrier with a rat, not however striking the fly against anything, merely shaking it. After a short time so spent the lizard proceeds to swallow the fly, which it does by half opening its mouth and drawing it in, and generally, after three or four movements of this kind, the fly is gulped down whole—legs and wings and bristles! Notwithstanding its struggles, I have been surprised at two things here: (1.) that it does not matter how the fly (or moth) is seized, whether by head or tail or side, down it goes, in despite of its long legs and wings; and (2.) that such a very small throat as the young ones have can so readily swallow a tolerably large fly (or moth) whole, and that, too, without showing any outward distention of the throat beneath; for although it keeps its head elevated, you cannot trace the prey going down the lizard's gullet! The larger adult lizards, however, do not knock about their heads with their prey in their mouths; they just give the usual two or three movements of their jaws, and the fly is swallowed! Sometimes it is one of the largest "blue-bottles." And the young ones, I notice, do not now knock about their heads when they have seized their prey so much as they did at first. On two or three occasions, when flies have been rather scarce, and the little lizards hungry, I have seen when one had got the fly into its mouth, the other would make up towards it, arch its neck, and put on the usual ferocious look, and, watching the time when the lizard with the fly in its mouth should open its jaws to make its swallowing

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490 WC: Vide Addendum.

movement, dart forwards and lay hold of the part of the fly outside of the mouth of the other. And now they both hold on to the fly—the fly getting the worst of it between them—and sometimes one and sometimes the other gets the prize; and, on more than one occasion, I have seen the fly get away from them after all its pinching! and fly and crawl about a little longer; showing that so far it was not greatly hurt. They often miss catching the fly when they make their dart upon it, for it flies away when the lizard looks stupidly about; the escaped fly flies around the glass, and sometimes comes back to the same spot or nearly so, and not unfrequently alights on the lizard's snout! When it does this, the lizard does not seek immediately to recapture it, and sometimes it even turns and runs away from the fly! On several occasions, when a fly has got into their water-trough, and is there struggling, I have seen them climb up and make a dart at it, and so take it in the water. I have mentioned moths. On a few occasions, when without flies, I have given the lizards a moth or two, of from 1 inch to  $\frac{1}{12}$  inches in length, and the lizards would catch and eat them just as they did flies, but the down would stick to their lips for some time ere they managed to swallow it, [257] which they also did. The large lizard often puts its tongue out ("licking its lips") when it goes after a fly, especially if a big one; I am inclined to think that it is hungry then. It is pretty to see the two young lizards going together after the same fly, especially if the fly is crawling above them, within, on the glass roof; to see them walking slowly, side by side, with measured gait, and step by step, like a pair of hounds in a leash or a couple of miniature fairy-like little creatures, with their heads up, and their little black eyes glistening; at such times, too, when they at last near the fly, they often trample on each other in their eagerness, but whenever they do so, they always take it very quietly, the one underneath neither struggling nor retaliating.

It has often seemed to me as if it were a natural law, or rule, of these lizards (a thing understood by them), that whenever they trample on, or walk slowly over, each other, or stand, or lie, or even sleep on each other, the under one, or ones, always take it patiently, and rarely ever move at all—not even when the sharp claws of the upper lizard are pressing on the eyes of the one under him: I have often been surprised at this. I have never once seen them fight or fall out, or attempt to bite each other, although confined in so small a compass. They often spend hours lying on each other's backs, which is a favourite posture with them, and sometimes sleep, or spend, the whole night thus. I have seen the whole seven thus together in one lump, with, sometimes, the little ones underneath.

They don't seem very timid nor easily startled to any great degree with noises, or sights, or sounds. I keep them on the table in my sitting-room, at which I take my meals, etc., and I have often thrown down a newspaper by their side, or struck the table with a book pretty strongly, yet they never start; it is the same when the candles are lit. They appear, too, as if they liked to snugly ensconce themselves in their cage under the koromiko branch, or (the two young ones) stretched out at full length on the upper side of the twigs.

I believe them to be inoffensive, peaceful, and sociable; and if, as I have already surmised, the fourth one (which was killed) was also a male, then there would have been two couples, at least, hibernating together in one "hole;" or that "hole" may have been their usual dwelling-place, seeing there were found in it "lots of black stuff"—no doubt their dry and hardened faeces, which could not, I think, have been

so largely deposited during the short period then passed of their hibernation. An intelligent friend in the country, who is also an observer of nature, has informed me that he has found them, in clearing, "six or seven together, cuddled up under the roots of a flax-bush" (*Phormium*).

It is pretty to see them drinking, which they do but seldom; they lap water much like a cat, but very slowly, as if they were tasting it; every now [258] and then passing their broad, thin, and large tongue right over their eyes, as if washing them, and always so finishing their drinking. I have also seen them lick the wet koromiko leaves when fresh; and the young ones, more than once, lick the adult male. Their tongue and palate are of a deep purple colour, much like that of some plums, and the tongue, when fully extended (as in licking), has an emarginate appearance, which may, however, be owing to the action of the hyoid muscle.

They seem to like the water, as they often go singly into their water-trough, and remain extended in the water for some time. They can swim very fast, too, but clumsily, as if they were in a great hurry about it; I have occasionally tried them at swimming in a large vessel of water.

They can run very swiftly, as I have often proved. When they merely walk, their tails are always straight; but when they make haste their tails are undulated laterally throughout their whole length. Here, no doubt, their undersquamæ help them; this, indeed, I have in a measure ascertained, in my taking the large lizard into my hands and holding it vertically, when, to aid its ascent in crawling, all the squamæ below are used strongly, and one feels them curiously applied against the hand.<sup>491</sup> This, also, I think, will account for their being able to climb up on the *outside* of their glass dome, which they can do—in which feat they are no doubt also materially aided by the large transverse scales on their toes, which are a beautiful object, and admirably adapted for climbing purposes. Their claws, too, are exceedingly sharp, having a translucent or semi-crystalline appearance, and are set on at almost a right angle to their toes. One can hardly bear to hold them in one's hand when they struggle and use their sharp claws.

Their tails have also a strong prehensile power, as I have found in their clasping my fingers with them very closely, and so holding on. On one occasion I had to clear the tail of one which was fast, having taken a half-turn over itself in the sharp angle of a twiggy branch of half-withered and flaccid koromiko, which, I suppose, it had pressed down by lying upon it.

They sometimes spring a short distance very nimbly when they wish to get away from any little obstructions; and they also jump down fearlessly and without hesitation. I have taken them up and allowed them to run over a book, etc., held horizontally, 2–3 feet above the table, when they would run straight over the edge of the book and drop on the table on all-fours, like a weasel or a cat, and so continue to run as before.

They assume all manner of curious and grotesque positions, some of them being most extraordinary, and some apparently painful, but in reality I suppose are not so. Whatever posture they assume they both can [259] and do

<sup>491</sup> WC: The sensation being just as if every single scale was being forcibly moved forwards in rapid succession by the muscles of the animal.

keep it for a long time, often remaining motionless for hours, occasionally even days, in one position. I have often thought, that if a correct drawing were taken of the lizards when in such queer postures, the cry of "How unnatural!" would surely be raised on its being looked at. Sometimes they will take a peculiar position on the edge of their water-trough (glass salt-cellars), there, with their tails within it, and merely holding on by their hind-feet on the narrow outer edge, they will project themselves forward in the air, and so either keep themselves quietly extended, or paw about in the air with their fore-legs, for some time. The large one will stand up against the glass dome (on the inside) with its fore-feet spread out on the glass, and its long tail curled in under it in a perfect ring, and its two hind-feet clasping its tail on the opposite side of the ring! Sometimes the young ones will raise themselves against the glass (within) and there stretch out their four paws on the glass, and so support themselves on their tail, which is for this purpose bent a little below its base, having the lower portion extended on the floor (much as a kangaroo is sometimes drawn) and in this posture they will remain 2-3 hours without moving. I have seen one of the young ones lay itself along the edge of its water-trough having its two feet of one side just within it, with the two feet of the other side low down on the outside, and its tail passed around the end and further side above the floor, and so remain immovable for half-a-day! I have also noticed one of them stretched among the koromiko twigs, having one of its little fore-legs twisted up backwards over its back! apparently as if dislocated or broken, and so remain for several hours. I have also observed the young ones standing for a considerable time with the 5th (or outer) toe of each hind-foot turned in completely underneath the sole from the first phalanx, so that no vestige of that toe could possibly be seen. The joints of their legs and toes seem to be strangely formed, as if reversible at their will in action. Sometimes one of the young ones will stretch itself on the head of the adult male, looking towards its tail, just bringing its four paws and sharp-pointed claws into the head and eyes of the large lizard by which it holds on! at other times the young one will quite reverse that position, looking ahead of the large lizard, but with its feet and claws as before (only reversed) and so remain for hours; the big one under him not moving. It is pleasing to notice them when a fresh leafy branch of koromiko is put into their cage, then the two small ones will climb up and extend themselves along the branchlets, while the adult lizard will curl himself up among the leaves below, and so they will quietly remain. On one occasion in the spring, when the whole seven were alive together, I noticed, one evening, one of the adult lizards on its side in the salt-cellars with its legs and feet as if twisted unnaturally over the edge; I first observed it about 5 p.m., at [260] 8 p.m. it had not moved, so also it was at 11 p.m., when I went to bed, and when I came down the next morning it was still in exactly the same strange position; I now thought it could not easily get out, so I lifted the glass to help it, but the moment I did so it scuttled away very fast.

They always take a most peculiar attitude to void their faeces, which, however, they do not perform frequently. I always know when they are about to do so (if on the look-out), for with young and old their preparation is pretty much alike. They first lift up their tails in a semi-curvature towards their backs, then they lift their hind-feet from the floor, and so slowly void their one pellet; which done they gently lower their hind-feet, and then their tail, and move away. On one occasion I saw the adult male lizard, which was quietly at ease among the koromiko twigs, leave its lair and climb up into the water-trough; at first I thought it was

going to drink, or to bathe in the water, but I was agreeably surprised in noting its actions; having got into the salt-cellars, it placed its feet on both sides, cocked-up its big tail, and voided its pellet into the water! That over, it leisurely descended to its former resting-place. In their voiding the faecal pellet the anus of the animal is produced much more than would be supposed. Their dung is of a long oval shape 4-5 lines long, and not unlike that of a sheep; it is black in colour, but always with a white adjunct (uric acid), somewhat resembling that of a fowl, which portion always appears first; they void rather slowly. Sometimes, especially after eating "bluebottle flies," the portions of the fly in rather coarse fragments are very plain in the deposit.

It was highly curious to note what I believed to be the amorous manner of the adult male toward the female lizards. This happened early in the summer, but the loss of the two females (*supra*) of course put a stop to it. He would chase the female in a peculiar strutting manner round and round their cage, moving his head horizontally very regularly and constantly with a jerk from right to left, and left to right, until he should lay hold of her, which he invariably did by the loose skin on the nape of the neck, when, having so caught her, he was still—sometimes for half-an-hour or more—holding quietly on all the time, but on her trying to get loose, which she easily did, the same kind of pursuit would follow, to be ended in a similar way. As the summer advanced his teasing manner became so constant, and evidently to the annoyance of the two females—giving them all no rest in their little cage—that I had thoughts of removing him into another, which I suppose I should have done had the two females not died.

Although I have often handled and stroked them, only on one occasion did one of them bite me; this was the adult male, and I had teased him a bit,—but his bite was but a gentle pinch, scarcely perceptible! I have a [261] growing fancy that they know me, for now they often come to the side of the glass nearest to me when I am observing them, particularly the two young ones,—this they did not at first. Indeed it is interesting to watch them, when I have them in their glass cage on my writing-table, close to me, when engaged in writing, to see them come to the side of the glass nearest to me, and there paw the glass, or stand up quietly on their hind-legs against it, evidently watching me closely with their pretty bright eyes, sometimes turning their little heads just as I may move. Of course they will not take a fly from my hands, for, let them be ever so hungry, as I have said before, they must see the fly moving before they will touch it.

I believe them to be endowed with great powers of abstinence; I scarcely ever saw the two adult females that died take a fly, and I am sure they could not have had many during the months they were in confinement, yet they did not fall off much in size; so with those two young ones that died,—one of them never ate at all from its birth,—yet, they continued to grow in length, just as the other two young ones did which survived. The adult male has rarely ever eaten much, sometimes (as far as I know, and I have watched him closely) scarcely three flies in a week. On one occasion, however, in the summer, I saw him eat four large red-brown flesh-flies within ten minutes, as fast as I caught them singly and put them into the cage; this feat quite surprised me as I had never seen anything of the kind before or since. The two young ones will each now eat half-a-dozen of the common introduced house-flies in a day, but then, after doing so, they go some 2-3 days without eating;

each of them certainly eats more than the adult, although they are not one-fifth of his size. I generally feed them twice in the week. Of the various kinds of flies I have given them, I think they prefer a shining green-bodied one (which is scarce), also a *small* kind of "blue-bottle." I do not suppose they live on flies when in their natural habitat, rather on small *Coleoptera*. Their patience also, as I have already intimated, seems very great; speaking generally they like to remain in a quiet attitude, especially the adult; he, however, might also be widely different if he had a mate.

Cold-blooded as they are (and they do feel cold when handled), yet I think they like the heat of the sun; for when I place their glass cage in its rays they never seek to evade them. The pupils of their eyes, which normally are of a narrow lenticular shape, in strong sun-light contract to a mere line, like those of a cat; they dilate, however, when about to seize their prey, also by candle-light, but not much, the pupil never becoming full. Their eyes also appear fixed, so that I believe they cannot see any small object (as a fly) when straight before them and pretty close to their nose. I have not detected their possessing any sense of smell, and have [262] reasons for believing they are devoid of it. I have also never heard any cry or sound,<sup>492</sup> though the ancient New Zealanders would flee in terror from this animal (or an allied species, *N. elegans*), saying they had sometimes heard its cry, which they called *kata* (= laugh), which they also greatly disliked and considered ominous. But, though I have often seen *N. elegans* on shrubs, etc., in travelling in former years, I never myself heard its cry; possibly, it may only emit a cry at certain seasons. I should also mention that these lizards have had many opportunities of uttering a cry, if, like many other animals, sudden pain would extort such from them. For, in spite of all one's care, sometimes one of them will get its toe or tip of tail slightly caught in replacing the glass, when it twinges and twirls surprisingly until it is released, when it runs and jumps wildly around its cage for a few seconds—no doubt from pain—but it never makes a cry nor opens its mouth. In this way one of the young ones got its tail hurt, during my absence from home in the summer, and, although apparently it was only bruised, about 8–9 lines from the tip, it has not yet assumed the normal healthy appearance, and I much fear the tip may fall off; it has also lately lost part of one of its hind outer toes from the same cause.

I advance this as a new species of *Naultinus* with some degree of doubt; but it does not agree with those several descriptions of the various species of that genus in "Trans. N.Z. Inst.," Vols. III. and IV., neither with the drawing therein given, said to be of *N. punctatus*, the outline of which is different. Should, however, this one here described be found hereafter to belong to one of them, then its specific description, as there given, will have to be amended.

#### **NAULTINUS PENTAGONALIS,<sup>493</sup> Col.**

This species is distinguished from its two nearly allied and described species (*N. elegans*, and *N. punctatus*), by its larger size, longer toes, form of scales, number of inter-nasal shields, etc.

Front of head, flat, somewhat depressed; eyes, large, broadly orbicular, very prominent in the upper region; the fine scales of the infra-orbital fold, or ring, protruding

causes a ciliated appearance; aural apertures, large, elliptic; a strongly-marked median line, or groove, runs from the base of skull nearly to the end of tail; a large protuberance, or hemispherical swelling, immediately behind the vent.

Scales on body and legs most regular and pentagonal; those on lower part of head, towards the snout, and between chin and throat, and behind vent on the swelling, are much larger than those of the body; at base of tail, on each side of its junction with the thighs, and near the vent, are seven large transverse conical-pointed scales, in two rows, 3/4, those of the [263] upper row the largest, and one on one side bifid; (the two young ones are also each showing a row of three transverse conical scales at base of tail); a large semi-circular patch of pre-anal pores, continuous, in three rows of scales, on both sides, in a long line (3/4 inch), under thighs; scales on tail imbricated, particularly towards the tip, where they are also smaller and slightly elongated; three inter-nasal scales; labial scales large, 8/10, gradually decreasing in size, that on the snout largest and emarginate, that on chin same size.

Toes, long, narrow, fine, those of hind-legs nearly twice as long as those of the fore-legs, last three the longest, and about equal in length (5–6 lines), while the fourth toe is the longest of the fore-leg; toes with large transverse scales, but the middle (palm) of foot has granular-like scales.

General colour,—*adult*: bright emerald green, with large oblong irregular-shaped spots or splashes of dull white, diminishing in size in two broken but parallel lines running from head to tail, one on each side of the back bone; tip of tail, pink; belly, yellowish-green; labial scales on both lips, light green of one hue; mouth, throat, and tongue (of both old and young), dark plum colour between purple and port; feet, tawny-white, or light cinnamon colour below. The *young* ones are marked each with about ten pairs of pure white irregularly-shaped spots, and nearly opposite, in two parallel lines running from head to tail, half of their number being on the body; one has a semi-circular white streak, 3½ lines long on both sides of its head over the posterior angle of the eye and ear; and one has two additional longitudinal rows, one on each side, of minute whitish spots; labial scales of under-lip, white; belly, light pea-green.

Length of adult, 7 inches 2 lines, of which the tail is nearly 3.6; of the young ones (one year old), 4 inches. The young, when first seen, were a little over one inch in length.

#### **ADDENDUM.**

Having obtained a few additional items of interest concerning those lizards since this paper was read, I give them here.

Those lizards commenced hibernating early in July. Possibly they would sooner have done so, but I had kept them in my sitting-room, where there was a daily fire; when, finding they did not care for food (flies), and remained still, I put them away in a dark back room, placing some soft hay in their house. They remained there until the 1st of October, when I brought them back—apparently thinner for their long fast, but healthy; the two young ones had also grown in length. They soon began to catch and eat flies as before. From the very small amount of faecal deposit found in their cage, I could not but think that the hole in which the original four were found must have been an old and often-used haunt. [264]

492 WC: Vide Addendum.

493 *Naultinus elegans*, Gray.

On the 16th November, the young one, No. 2, cast its skin, much broken. (This one only shed its skin twice during the last summer.) On two occasions since, I have seen it have a kind of convulsion fit—once in its cage, and once on my hand—during which its writhings were strange, as if its little legs were disjointed; its head was thrown back and its mouth stretched wide open, showing its capacious throat; it also uttered two faint cries during the fit, and once tried to bite!—but such a little easy nip, scarcely perceptible.

The adult one also, while I was handling (examining) it, bit me—in its fashion!—and twice uttered a cry because it could not get away. Their cry was a grave sound, a little low croak, something like an attempt on our part at uttering the letter *a* (broad) with the mouth open.

I have since fully proved the strong prehensile power of their tails; they can hold on by them to a cord, or small branch, or to my finger, and thus suspend themselves for some time.

An acquaintance here looking at them observed, that he once saw two green lizards (*Naultinus* sp.) together near Auckland; in endeavouring to capture them, one got away among the fern, and the other was unfortunately killed. He, however, noticing that its abdomen was very large opened it, and found two small living lizards within. This statement strengthens me in my supposition that this lizard is viviparous.

The adult lizard is now casting its skin in the usual manner (November 26th).

## 1879 A Description of a few new Plants from our New Zealand Forests, with dried Specimens of the same.

*Transactions of the New Zealand Institute* 12: 359-367.

[Read before the Hawke's Bay Philosophical Institute, 13th October, 1879.]

DURING the last few years I have again turned my attention in spare time to the elucidating a little more of the still unknown botany of our adopted country; being as strong a believer as ever in the great peculiarities and narrow areas of not a few plants of our local Floras. And, from among several plants which I have detected, which have pleased me, I now bring you the following—all, I believe, being new species and hitherto undescribed, if not totally unknown to science. Some of them, I think, will interest you, particularly the *Clematis*, one of the two species of *Metrosideros*, and the three ferns. But, alas! between the most carefully prepared dried specimens and living plants—in all their glory and beauty—there is “a great gulph” of difference:—

### CLEMATIS PARKINSONIANA.<sup>494</sup>

A diffuse slender climber; branches striated.

Leaves 3-foliate, submembranaceous, various in size and outline, mostly (1) ovate acute, mucronate, entire, 1½ inches

long, 7–8 lines broad, (2) sometimes deeply serrated and incised, having 1–4 incisions near apex, (3) sometimes cordate acuminate, 2 inches long, with 6–8 very large and irregular serratures or incisions, and (4) sometimes (rarely) broadly elliptic, almost orbicular, entire, and very obtuse; obscurely trinerved, nerves red; both surfaces well covered with adpressed golden-yellow shining hairs; veins numerous, yellow-red and semi-translucent, very finely reticulated—compound anastomosing having free veinlets terminating in areoles, as obtains in some ferns—(e.g., *Polypodium membranaceum* and our own *P. billardieri*); common petiole 3 inches long, petiolules 8–10 lines long; young branches, petioles, peduncles, and pedicels densely villous with yellowish-brown spreading woolly hairs. Flowers numerous, diameter 9–10 lines, disposed in long loose axillary panicles 4 inches long; sepals (male), six, yellow (brass colour), oblong-lanceolate, very obtuse or retuse, 4 lines long, obscurely 3–5 nerved, nerves branching, very woolly on the outside, the silky wool extending far beyond margins and apex, giving a subciliated appearance; anthers elliptic, obtuse, pinkish; filaments linear lanceolate, of various lengths, but much shorter than sepals, not very numerous, under thirty, often remaining after the sepals have fallen. Peduncles opposite, springing from main rhachis, 1–2 inches long, and about 1 inch apart, generally trichotomously bearing three flowers on pedicels 5–8 lines long, the central pedicel always the longest; peduncles and pedicels each having a pair of oblong obtuse connate bracts at their bases, those of the pedicels being the longest, thinnest, and simply veined. [360]

A species having affinity with *C. parviflora*, A. Cunn., though very distinct.

Hab.—On the banks of the River Mangatawhainui (head of the River Manawatu), “Forty-mile bush,” 1878, and again, 1879; where it forms dense bushes with *Rubus cissoides*, climbing tolerably high, 14–16 feet, and presenting a glorious mass of yellow blossoms. Its flowers, however, are very fugacious, so much so that it is difficult to obtain good specimens, the mere gathering causing them to fall; hermaphrodite flowers, though carefully sought, were not seen.

I have very great pleasure in naming this graceful plant after our earliest botanical draughtsman, SYDNEY PARKINSON, who accompanied Sir Joseph Banks and Captain Cook on their first voyage of discovery to New Zealand. *Manibus Parkinsonibus sacrum*.<sup>495</sup>

### METROSIDEROS PENDENS.<sup>496</sup>

A climbing plant with reddish rugged bark, having stems round or obtusely and irregularly furrowed and angled or compressed, emitting rootlets like ivy, and bearing many pendulous leafy branches.

Leaves decussate and distichous, shortly petiolate, ovate acute, 7–9 lines long, 3–5 lines broad, with occasionally a pair nearly orbicular, triplinerved or sub-quintuplinerved, very pilose on both sides, thickly punctate, somewhat concave and imbricate, margins revolute, dark-green above and pale or yellowish-green below, sub-membranaceous, old leaves rather dry with obscure veins, young leaves and branchlets very light-coloured with scarcely a tinge of green at first; ultimate branches long, straight, always simple

495 WC: Vide Trans. N.Z. Inst., Vol. X., p. 109.

496 *Metrosideros colensoi* Hook.f.

drooping, 12–18 inches long, densely villous, hairs patent. *Flowers* pendulous, white, small, 2 lines long, 8–16 together in a thyrsoid panicle, mostly trichotomous, and always terminal; *calyx* gracefully infundibuliform, nearly 2 lines long, more than twice as long as the ovary, much broader at top and narrower at base than the ovary, pubescent and punctate, teeth 5 (sometimes only 3 or 4), triangular acuminate, re-curved, much longer than the petals, punctate, pubescent, and springing without from below the prolonged inner rim of the calyx; *petals* very minute, deciduous, whitish or light pink, somewhat orbicular, jagged at apex, clawed, the very short claw dark pink. *Anthers* minute, orbicular, light pink; *filaments* white, very slender, hair-like, flexuous, crowded, numerous, always more than 20, 2 lines long, deciduous; *style* slender, much longer than the stamens, 5 lines long, wavy, persistent; *stigma* dilated and slightly emarginate; *ovary* very small, less than a line in diameter, pilose, globose, obscurely trigonous, turgid, bursting loculicidally nearly to base. The *main peduncle* or *rhachis* stout, terminal, being the continuation of the branch, 4–6 lines long, this sometimes has a [361] short secondary peduncle at its base, springing axillary from a leaf, and trichotomously bearing three flowers nearly sessile or on very short pedicels, bi-bracteate, bracts long linear; *pedicels* on main rhachis short, under 1 line long, each having a pair of minute, scarious, punctate, and pilose bracteoles at the base.

*Hab.*: Forests, head of the Manawatu River, climbing lofty trees; 1874–9.

This species is pretty closely allied to *M. colensoi*, Hook., but differing from that species in its peculiar strictly drooping growth, in its decussate and densely pilose broader and coloured leaves, in its peculiar calyx lobes, and terminal panicles of white flowers. It is a beautiful plant in its native wilds, and will, no doubt, at some future day, become a favourite garden one, on account of its elegant pendulous habit. Its flowers are rather rarely produced, and are generally, including the calyces, gnawed by insects. I had to seek often, and to wait some years ere I could get perfect specimens. I consider it by far the most graceful of all our known New Zealand species of *Metrosideros*.

#### METROSIDEROS SUBSIMILIS.<sup>497</sup>

A bushy diffuse climbing plant, with pale deciduous bark.

*Leaves* opposite, somewhat distichous, petiolate, 7–9 lines long, 4–6 lines broad, broadly ovate and acute, sometimes broadly elliptic and mucronate, sub-coriaceous, minutely punctate beneath, 3 (sub 5) nerved, midrib and lateral nerves prominent, margin entire, slightly revolute and finely ciliated, the lowest pair on a branchlet always the smallest, and often orbicular; young leaves very finely pilose on upper surface and on midrib beneath; petioles and branchlets densely and finely pilose. *Flowers* horizontal, erect, whitish, small, under 6 lines long, generally 5–7–9 together, decussate, in short racemes or thyrsoid-like panicles, always lateral, and springing directly from old wood,—sometimes, however, a small corymb of three, and more rarely a solitary one appears; *calyx* broadly campanulate, longer and broader than ovary, nerved, minutely pilose, with five (sometimes six) deltoid teeth, obtuse, persistent, minutely and regularly crenelled or subbeaded on inner border of the rim; *petals* small, fugacious, under one line in diameter, orbicular, scarcely

clawed, obscurely 3–5-veined, punctate, erose, or minutely jagged at top, limb faintly pinkish, and some with a slight tinge of red—particularly on the outside,—claw dark coloured; *anthers* small, orbicular; *filaments* slender, simple, pure white, two lines long, flexuous, spreading, not numerous (15–20), deciduous; *style* stout, subulate, erect, much longer than stamens, 4–5 lines long during flowering, afterwards 6 lines long or more, persistent; *stigma* dilated; *ovary* small, under one line diameter, globose, wholly adherent with base of calyx-tube, splitting loculicidally into three valves, the terminal or central ovary sometimes bearing a [362] scarious bracteole near its top; *peduncle* stout, pubescent, 6–20 lines long, pedicels slender, pubescent, 1–2 lines long, always opposite on rhachis, bracteolate, each with one or two small scarious obtuse bracteoles and several very minute acute ones at base, and often with a pair of large leafy broadly ovate punctate bracts pilose and ciliate immediately below the base of the pedicels.

*Hab.*—Forests at the head of the River Manawatu, where it climbs lofty trees; 1876–79.

This species, which has been long known to me in its non-flowering state, will rank near to *M. hypericifolia*, A. Cunn., which in some respects it resembles; differing, however, in its more upright manner of growth, not being so divaricate; in its leaves being petiolate, broader, pubescent, and ciliate, and not so acute; in the colour of its flowers; in its stamens being always very diffuse—not erect; in its style being much longer than its stamens; in its longer and more dilated calyx tube which is also persistent; and in its leafy panicles.

A good characteristic drawing of *M. hypericifolia* is given in the “*Flora Novæ Zelandiæ*” (such as I have seen that handsome plant in the Northern woods), its flowers are wholly “scarlet” and very striking; but in this species its living flowers mostly appear pure white in its forests, owing to the early falling-off of its very small fugacious petals and its white spreading stamens.

#### OLEARIA COLORATA.<sup>498</sup>

A large shrub 8–12 feet high, of erect sub-pyramidal growth; bark thin, pale; branchlets striated.

*Leaves* broadly lanceolate, 3–5½ inches long, 1–2 inches broad, mucronate, grossly and irregularly toothed at ends of lateral veins, teeth long subulate pointed, sub-membranaceous, rather dry, alternate, spreading, colour light-green, thickly covered above when young with long strigose loose woolly hairs,—*hairs* white, hoary, translucent, irregular in size and shape, branched, linear-lanceolate, broadest in middle, and tapering gradually to both ends,—and leaves densely covered below with closely-pressed white-brown cottony tomentum, which on the midrib and principal lateral veins is of a very much darker colour; lateral veins alternate at right-angles to mid-rib, conniving and coalescing within the margin; whole leaf closely filled with minute reticulated compound anastomosing veins; petioles 6–9 lines long, canaliculated, rather slender. *Flowers* axillary and sub-terminal in diffuse branching heads of loose corymbose panicles; *heads* numerous, small, crowded, 5–7 lines diameter, flowers of ray 8–14, white, patent, slightly recurved; *involucre* sub-campanulate, its scales in about three rows, lanceolate acute and densely woolly and tipped with black, each [363]

497 *Metrosideros diffusa* (Forst.) Sm.

498 *Olearia rani* var. *colorata* (Colenso) Kirk.

involucræ having a small linear bracteole close to its base; *pappus* numerous, white, pointed, not thickened at top, longer than involucræ and shorter than the ray flowers; *achenium* (immature) glabrous, plain, not costate; *peduncles* from rhachis 1–2 inches long, always bearing an oblong obtuse bract close to their bases; *pedicels* 2–4 lines long, slender, generally with a linear bracteole at base or about the middle of pedicel, and mostly ending dichotomously with two heads of flowers; rhachis, peduncles, pedicels, involucræ, and petioles, thickly covered with red-brown woolly tomentum.

*Hab.*—Dry forests, “Forty-mile Bush,” head of the River Manawatu; 1876–1878.

This plant is, no doubt, closely allied to *O. cunninghamii*, Hook., but differing in its peculiar strigose hoary leaves, and their several curious colours, and sharp apiculated teeth, in their veinlets branching from the midrib at right angles, and in its pointed pappus. I have more than once thought, that Sir J.D. Hooker may have included more than one species of *Olearia* under *O. cunninghamii* in his “Handbook of New Zealand Flora.” The type of that species (*Brachylottis rani*), discovered and described by Cunningham, is a northern plant (Cunningham originally found it north of the Bay of Islands), and I have never met with it in these parts. But be that as it may, this species is neither Cunningham’s plant nor the *O. cunninghamii* of Hooker. It is common in the “Forty-mile Bush” forest, and when in full flower in summer is a graceful and conspicuous object, always delighting the eye of the traveller that way with its striking masses of white blossoms. Curiously enough this plant does not flower every year. It flowered most abundantly in 1878, but in 1879 not a single shrub could I detect bearing any flowers!

It has been named *colorata* from the four colours of its leaves and petioles; the upper side of the leaf, when denuded of its hoary hairs, is a peculiar light green, below the blade is whitish with a slight tinge of ochre or light brown, while the mid-rib and larger veins are light reddish-brown, and the petioles and branchlets are a still darker shade of rich red-brown. All this is very constant and apparent, at first sight, in its living state. Its leaves are also frequently further discoloured through being punctured and gnawed by insects.

#### DICKSONIA SPARMANNIANA.<sup>499</sup>

Plant terrestrial, cæspitose, sub-erect, many-fronded, rhizome or root-stalk rising only a few inches above ground, and in some few instances apparently shortly coalescent. *Stipe* very short, 6–9 inches, densely clothed throughout with long hairs; hairs 2 inches long, shining, chestnut-brown, articulated and moniliform their whole length; *rhachises* densely woolly and hairy with light brown, patent, glandular hairs; stipe and main-rhachis [364] green, sub-succulent, with a continuous, narrow, white-ridged, glabrous line, extending from pinna to pinna on both sides throughout their whole length. *Frond* obovate or cuneate, profoundly tapering downwards, or somewhat of a rhomboidal figure having two of its sides excessively produced, tripinnate, acuminate at tip, about 40 jugate, 6 feet long, broadest at 20 inches from apex, and there 18–20 inches in diameter, greatly attenuated downwards; *pinnae* alternate, free, not crowded, longest pinna isosceles-triangular very acuminate, 9½ inches long and 3 inches

broad at base (broadest part), but rapidly decreasing in breadth, being, at 2 inches from base, only 2 inches broad; *pinnae* at base of frond very small, 2–2½ inches long, and distant, only 6–7 in the lowest foot on both sides, and fully 15–18 inches from lower end of rhachis before any approach to pairs; *pinnules* petiolate, straight or inclined forwards, triangular, 12–14 lines long, 4–5 lines broad, broadest at base, very acute, alternate; *segments* not crowded, oblong-ovate, sub-falcate, alternate, sessile, save lowermost pair on pinnule, decurrent, sharply toothed, the largest barren ones having 10–11 acute, almost spiny, teeth, fertile ones with fewer teeth and sub-revolute; texture membranaceous, both sides more or less hairy, particularly on mid-rib of pinnules; hairs on upper surface loose, hoary; *veins* pinnate, veinlets forked at apex, some simple, free; *sori*, generally four on largest segment, small, not crowded; *involucræ* very globose and inflated, margins entire; valves large, especially the outer one which is cucullate, and partly composed of a different texture from that of the frond—not unlike that of a *Cibotium*.

*Hab.*—In hilly shaded forests, western slopes of Ruahine Range, head of river Manawatu, 1877–80.

This fern in some respects approaches to our *D. fibrosa*, but is very distinct. There is a common family resemblance among most of the large *Dicksoniæ*, rendering it difficult to discriminate species,—especially from merely dried specimens and portions of fronds. Here, however, the peculiar hairs afford a good character, also the sori and the striking outline of the frond (there are also others more or less minute). The very local and distinct *D. arborescens*, of St. Helena, the type of the genus, has also similar moniliform hairs. The time is rapidly approaching when ferns will be more truly and naturally classified (as to species) by their peculiar and never-varying natural microscopical characters,—much as now obtains among the *Hepaticæ* and *Musci*, the *Umbelliferae* and *Compositæ*. This species is a very handsome growing plant, with its bold fine-spreading crown; in its manner of growth resembling its neighbours *Aspidium aculeatum*<sup>500</sup> and *Lomaria discolor*—but is as a giant among them! I have known it for [365] several years, but only last year, for the first time, found it bearing fruit in great profusion.

I have honoured myself by naming it after a disciple and fellow-countryman of Linnaeus—Dr. Sparrman—who was one of the earliest botanists in New Zealand, accompanying Captain Cook and the two Forsters hither on his second voyage of discovery. Of Sparrman, his fellow-voyager Dr. Forster says in his preface to his classical *Genera Plantarum*:—“Sparmannus plantas describat, Filius easdem delineabat.—Verum dum Sparmannus plantas accuratius examinaret, filius et ego saepè in consilium vocati in commune consulebamus, etc.,”—and yet nothing in New Zealand has ever been named after him!<sup>501</sup>

#### HYMENOPHYLLUM PUSILLUM.<sup>502</sup>

Plant both epiphytical and terrestrial; rhizome red, wiry, creeping, hairy; hairs red.

500 WC: In giving the name from the “Handbook, New Zealand Flora,” by which this handsome fern is therein described, I do not subscribe to its being identical with the British species of that name.

501 WC: Vide “Transactions N.Z. Inst., Vol. I., “Essay on the Botany of the North Island, N.Z.,” pp. 55, 56, for more.

502 *Hymenophyllum revolutum* Colenso.

*Frond* 4–8 lines long, oblong-ovate, obtuse, pinnate, 4–5 jugate, bearing long, red, broad, curved scales on its veins on both surfaces; *pinnæ* petiolate free, mostly opposite, lobed or sub-pinnatifid on the upper side only, lowermost pair always opposite and generally 3-lobed; *rhachis* not winged, save a very little at top, lobes very small and confluent at apex; *stipe* 3–7 lines long, capillary, flexuose; stipe and rhachis bearing scattered red chaffy scales; *segments* or lobes, obovate-elliptic, not linear, very obtuse or truncate, semi-transparent, largely serrate or laciniate, the teeth or laciniations very long for size of plant and wholly composed of the fine texture of the frond and often revolute never spinulose, generally five teeth at the apex of a lobe; *involucres* terminal and supra-axillary on the uppermost pinnæ, obovate, divided about halfway down, not compressed, and bearing red hairy scales; lips toothed; *receptacle* included; *sori* red.

*Hab.*—On trunks of living trees, and on the earth at their bases, in dense shady forests throughout the North Island; but sparingly. First detected (barren) on Te Ranga mountain, head-waters of Waikare, Bay of Islands, 1836; again (but barren) at the head of the Wairarapa Valley, 1852; and again, and in fruit, in the forests, west slopes of Ruahine mountain range, near the head-waters of the River Manawatu, 1878–9–80; generally found on *Olea* sp.

This little plant is nearly allied to *Hymenophyllum tunbridgense*, *H. revolutum* (mihi),<sup>503</sup> *H. minimum*, and other of the smaller *Hymenophyllæ*; but on close comparison with them (living specimens) it will be found to be abundantly distinct. To me it appears as a necessary needful species [367] required to connect those species above referred to in a natural sequence. It is one of those ferns which, though distinct, it is difficult to describe specifically in words, as Sir W.J. Hooker, long ago, often remarked in his valuable works on ferns. Having, however, lately obtained specimens of *Hymenophyllum tunbridgense (vera)* from England, I am positive of its specific distinction; the typical British plant being wholly glabrous, having its rhachis strongly winged throughout (extending downward in some instances to the upper part of its stipe), its lobes always narrow “linear,” and serrate not slashed, teeth spinulose and hard not thin, with only 2–3 teeth at the apex of a lobe, and its fructification invariably supra-axillary and never terminal. But with botanists who make but one species of those two widely differing ferns—*H. tunbridgense* and *H. wilsoni*—of course this little fellow would be only deemed a variety of *H. tunbridgense*.

#### TRICHOMANES VENUSTULA.<sup>504</sup>

Plant creeping, epiphytical, pendulous on trunks of living trees; rhizome capillary, creeping, woolly.

*Fronds* pendulous, pinnate, 4–6 (sometimes 7) jugate, dark-green, glabrous, semi-transparent, oblong, somewhat deltoid, obtuse, 1–2 inches long, 6–12 lines wide; *pinnæ* petiolate, close not crowded, tolerably regular, lowermost pair mostly opposite and generally the largest, flabellate and rhomboid-acuminate, sub-pinnatifid or deeply cut on both sides, trinerved, each nerve a little waved and giving out pinnate veins, veinlets simple or forked, margin slightly sinuous; *segments* generally 3–5 on a pinna, obtuse or retuse, cuneate at base, middle one linear and much produced; *involucres*

scattered on both edges of pinnæ, 2–5 on a pinna, upper half free or with one side attached to frond, tubular or slightly funnel-shaped, mouth much dilated, plane, equal all round; *receptacle* setaceous and exserted, 2–6 lines long, curved; *rhachis* winged slightly at apex; *stipe* 9–12 lines long, capillary, flexuose; both stipe and rhachis green, nearly same colour as frond: stipe always black at base.

*Hab.*—On trunks of living trees, dense shady damp forests, west slopes of Ruahine mountain range, head of the River Manawatu; 1878–9.

This little novelty is nearly allied to *Trichomanes venosum*, Brown; differing, however, in several respects, especially in its sub-flabellate trinerved pinnæ, in its rhachis not being winged, and in its involucres, which are also numerous and scattered on both edges of its pinnæ.

While growing pretty plentifully in that locality, though only hitherto detected on a few trees, it is not very often found in fruit; at the same time some insect seems to be very fond of its fronds, which are generally more or less gnawed. Showing, in this respect also, a great difference to its ally *T. venosum*, which, on the neighbouring tree-ferns, luxuriates untouched in all its glossy beauty. It was only in this last year (1879), after very diligent research, that I succeeded in obtaining good fruiting specimens of this plant.

P.S.—Specimens of all the Plants described in this Paper have been forwarded with it to the Manager of the New Zealand Institute, for the Herbarium of the Colonial Museum, Wellington.

### 1880 On the vegetable food of the ancient New Zealanders before Cook's visit.

*Transactions of the New Zealand Institute* 13: 3–38.

[Read before the Hawke's Bay Philosophical Institute, 9th August and 13th September, 1880.]

Two gross errors have largely and repeatedly been industriously published concerning the ancient Maoris, and these, too, from our first knowledge of them:—(1) their utter ignorance of almost every art pertaining to society; and (2) their great want of food. Hence, it has been also said, almost as a necessary deduction therefrom, that the poor creatures were necessarily in a savage and starving state; from which their subsequent intercourse with Europeans had gradually served to raise them. For my own part, I more than doubt all this elevated assertion of their civilized Northern visitors; indeed, I am quite prepared wholly to deny it, as far as relates to the Maoris of the North Island. In some of my former papers concerning the Maoris, read before you, I have endeavoured to show, plainly and truly, a little of what they really were as to very many of the useful and the ornamental arts which once flourished among them (and more I yet hope to bring forward as bearing on this head); this serves to meet the first-mentioned of those two errors: while, to-night, I purpose in part taking up the second, and, in doing so, shall confine myself to a consideration of their vegetable food in the olden time (a subject but very imperfectly known); and also show that they, the natives of this North Island, had attained to a very

503 WC: Tasmanian Journal Natural Science, Vol. I., p. 186.

504 *Trichomanes venosum* R.Br.

high system of agriculture, which was purely national and loved, and passionately, judiciously, and universally followed everywhere among them.

To me—after so long a residence as mine, of nearly half a century—the origin of this belief of their having been greatly in want of food is clear and [4] plain. 1. Cook first visited them at the very period of their planting season; or, rather, when he anchored in Tolaga Bay, it was just over, as he himself states; so that of their cultivated vegetable roots they could not possibly spare any—that particular time being with them always one of scarcity of crop-vegetable food, from the fact of their one principal cultivated root (the produce of seed from the previous autumnal season) not keeping sound beyond the regular period of setting it in the earth. Moreover, two things must here be steadily borne in mind:—(1) their cultivations were always strictly tabooed, and therefore could not be intruded on; and (2) every chief had several plantations, and always far apart from each other, for prudent political reasons. Notwithstanding this, Cook says that he saw, at Tolaga Bay alone, “from 150 to 200 acres under crop,” and that, too, in a place with a small population; for, he adds, “we never saw there 100 people.”<sup>505</sup> 2. At all of Cook’s visits (with the one exception of his touching, on his first voyage, at Tolaga Bay, and his subsequent call in at the Bay of Islands) he anchored and staid in places where the Maoris did not have any cultivations; indeed, it is doubtful whether the Maoris of the Southern Island ever had any. Hence, when they visited his ships in their canoes, and often from a distance, they had little or nothing in the shape of vegetable food with them save fern-root, and were therefore supposed to be in great need of victuals, and not unfrequently experienced the generosity of their visitors, which (as we ourselves have subsequently too often found) encouraged them to adopt and persist in a habit of systematic begging. 3. And this, too, has been often the case with them in their subsequent intercourse with shipping and with visitors, and also in the early years of the Colony,—the Maoris in visiting or coming among the Whites have been without food, just because they were away from their homes and cultivations; much, indeed, as it is with ourselves in travelling, etc., in a new or unsettled country. 4. There still, however, remains the fact that modern writers on the Maoris (as Manning and Taylor<sup>506</sup>) who have resided a long time in New Zealand, state the same; all I can say is, that they are altogether wrong in their conclusions; they, not having witnessed it themselves in the past, suppose [5] it to have been so, from

505 WC: Cook’s Voyages, 1st Voyage, Vol. II., p. 313.

506 WC: Here is a specimen:—“Formerly they were much pinched for food in winter; that period went by the name of the grumbling months, they had no other name for them, being a blank in their calendar, as they could do nothing but sit in their smoky huts with eyes always filled with tears.” [What horrid stuff!] Again:—“In times of scarcity, the only food they had to depend upon was fern-root and shell-fish. The traveller is often surprised, as he journeys along the coast, by the large heaps of shells which he sees on almost every mound he passes; these are records of by-gone scarcity, &c.”—Taylor’s New Zealand, 2nd Ed., p. 341

To this I reply:—1. They were not pinched for food in winter. 2. The winter months were not so named. 3. Their “only food in times of scarcity” was not merely fern-root and shell-fish. 4. Those mounds are not “records of by-gone scarcity”—rather of plenty! The shell-fish were collected in bushels, or cart-loads, in the summer, in their proper season, and cooked, and the flesh dried and often strung on long threads of New Zealand flax, and carried off in baskets to their homes for stores.

what little they have seen around them during the modern transition period of the Maoris, and from their own English ideas. The old, intelligent, thoughtful, industrious Maoris of the North Island have always denied it. What they said, was (1) they had not such good natural gifts—fruits, roots, vegetables, cereals, etc.—as the Europeans; and (2) they had vastly more labour in obtaining and preparing for food what they really had around them, particularly in the matter of vegetables.

The ancient New Zealander had great plenty of good and wholesome food, both animal and vegetable, but all such with them was only to be obtained by *labour*, in one shape or the other, almost unremitting. To them Nature has not been over-indulgent as she had been to their relatives in the more Eastern and tropical Isles of the South Pacific—where the bread-fruit and the banana, the cocoanut and the plantain grew spontaneously, and yielded, without toil, their delightful fruits to man! But all such constant labour and industry was doubtless in their favour, helping to “the survival of the fittest,” and causing the development of a finer race, both physically and intellectually. The old Maoris were great fishers and fowlers—and hunters too, in their diligent snaring of their prized, fat, frugivorous forest rat; but, for the present, I shall omit all reference to their animal food, confining myself to their being industrious and successful agriculturalists and cultivators of the soil.

And this one chief and noble industry duly considered shows how far, how very far, they were in advance of the mere hunter, or fisher; the true savage man of both ancient and modern times,—whether we look for him (his remains) in Europe, among pre-historic cave relics of days long gone by, or among the modern inhabitants of Patagonia and Magellan Straits, or those nearer neighbours of South Australia and Tasmania.

Indeed, their being great cultivators, and that from very ancient times, places them high in the true scale of civilization and real advance. Far even beyond that state to which our own forefathers the Britons, and also the Germans, had advanced when Cæsar first led his victorious Roman legions among them.<sup>507</sup> I know of no ancient people who, without the knowledge or use of metals, had advanced so far in this direction. In this respect they serve to remind me of the Peruvians under their Incas, though [6] that people possessed both metals and beasts of burden. All Eastern nations, from their earliest annals, were ever famed for their attachment to the cultivation of the soil. The Egyptians and the Phoenicians, the little nation of the Jews, the Persians,<sup>508</sup> and the Chinese,—and afterwards (and from them) the Greeks and the Romans, not only supported and

507 WC: Tacitus, Germania, c. 26; and Cæsar, Bell. Gall., VI. 21, etc.

508 WC: It is related of the ancient Persians, “that their kings laid aside their grandeur once a month to eat with husbandmen;” this is a striking instance of the high estimation in which they held agriculture; for at that time the fine arts were practised among that people to great perfection. The precepts of the religion taught by their ancient magi, or priests, included the practice of agriculture. The saint among them was obliged to work out his salvation by pursuing all the labours of agriculture; and it was a maxim of the Zendavesta,—that “he who cultivates the ground with care and diligence, acquires a greater degree of religious merit than he could have gained by the repetition of 10,000 prayers.” I would that such a doctrine were believed in now-a-days!

patronized it, and wrote books in praise of it,<sup>509</sup> but actually followed it themselves, each noble labouring on his respective farm, much as the Maori chiefs themselves did.

And this national custom long-continued (as I have already mentioned) was, in my opinion, the reason why the New Zealander also excelled in so many of the arts practised by him—agriculture being, in its primitive and rudest form, the first step in civilization; and this industry once practised and liked is sure to improve, and to lead on gradually to its own rich development. Xenophon has truly remarked that “Agriculture is the nursing-mother of the Arts; for where Agriculture succeeds prosperously there the Arts thrive; but where the earth necessarily lies uncultivated, there the other Arts are destroyed.” (*Economics.*) And a learned modern writer (Dr. Kalisch) has judiciously observed, in remarking on the early agriculture of the world,—“It is a deep trait in the Biblical account to ascribe the origin of cities to none but the agriculturist. Unlike the nomad, who changes his temporary tents whenever the state of the pasture requires it, the husbandman is bound to the globe which he cultivates; the soil to which he devotes his strength and his anxieties becomes dear to him; and that part of the earth to which he owes his sustenance assumes a character of holiness in his eyes,<sup>510</sup>—he fixes there his permanent abode, and considers its loss a curse of God. Thus the agriculturist was compelled to build houses and to form a town. Many inventions of mechanical skill are inseparable from the building of towns; ingenuity was aroused and exercised; and whilst engaged in satisfying the moral desire of sociability, man [7] brought many of his intellectual powers into efficient operation.” (*Com. on Gen.*, IV.) No doubt such, or similar, was the case here in New Zealand of old—in ages long past! Hence, too, arose their towns possessing really good houses, strong and well fortified places of strength, etc.,—such as their neighbours the Australians and Tasmanians never knew! such as this generation of Maoris has scarcely ever seen or dreamt of! Hence, too, the very strong attachment shown by not a few of the older Maoris in our days, to the homes and to the cultivations of their forefathers; a fine and estimable feeling, which, in not a few instances, has been rudely mocked and opposed!

In a former paper on the ancient Maoris,<sup>511</sup> I brought before you several of their fit and pertinent proverbs relating to Industry and to Agriculture (which I merely refer to here in passing); and to the same subjects, in addition thereto, some of their traditional incidents, historical and legendary, in their oldest legends undoubtedly belong;—e.g., that of their favourite and beneficent hero Maui catching and binding the sun, to prevent his travelling so fast, “so that man might have longer day-light to work in;” and that of another hero named Tamatea, who “first set fire to and burnt up the rank vegetation of tangled weeds and jungle, that man might have a clear space of ground wherein to grow food;” two beautiful and worthy ideas, which could only have proceeded from an agricultural and working race. Hence, too, very possibly, under similar ideas and feelings, may we look for the peculiar derivation of their verb and noun for

509 WC: Among the Greeks, Hesiod in “Works and Days,” and Xenophon in “Economics,” and among the Romans, Cato, and Varro, and Virgil in his “Georgics.”

510 WC: See the Maori proverb, No. 22, p. 118, “Trans. N.Z. Inst.” Vol. XII.

511 WC: Contributions towards a better knowledge of the Maori Race, “Trans. N.Z. Inst.” Vol. XII., p. 115, etc.

laziness, and to be lazy,—especially with respect to active work, viz., *mangere* (*ma* and *ngere*),—*ma*, the active preposition “for,” and *ngere*, their name for any hideous or disagreeable cancer or corroding ulcer,—i.e., the lazy fellow is food for the *ngere*! A term ever greatly disliked among them.

## I.—OF PLANTS FORMERLY CULTIVATED FOR FOOD.

### 1. *Of their Plantations.*

Before however I speak of the plants themselves, their plantations should be considered. These, as it has already been observed, were, for wise political reasons, scattered, and often some were situated in half-concealed out-of-the-way places; this was done on account of the danger the Maoris were continually exposed to, namely the sudden visit of a *taua*—war party (often from their own friends and relatives), to demand satisfaction for some offence,—generally an insult, or a breach of *tapu* = *taboo* restrictions; at which times the crops, being almost the only available personal property, were sure to suffer, often being wantonly rooted up, [8] etc.<sup>512</sup> Notwithstanding, they had large plantations also, which might be called tribal, or communal; and sometimes these were a few acres in extent.

For the *kumara*—*Ipomoea chrysorrhiza*—a dry and light sandy, or rather gravelly soil, was selected; and if it were not so naturally, it would be sure to become such, as every year they laboriously carried on to it many a weary back-load of fine gravel, obtained from pits or river beds in the neighbourhood, and borne away in large and peculiarly close-woven baskets specially prepared for that purpose only. This labour, however, was the principal heavy one attending their cultivations; as, before they knew the Europeans and for some time after, they never strongly fenced their plantations, not having any need to do so; the highly laborious and additional work of making wooden fences around their cultivations in after years arose from the introduction of the pig. They did, however, put up fences and screens of reeds, etc.; this was done to break the force of the winds which blow strongly in the early summer, the young *kumara* plant being tender, and the *taro* possessing large semi-pendulous leaves. Cook also noticed this; he says,

512 WC: The last two occasions (known to me) of this being done, may be briefly noticed in a note—seeing that well-known Maori chiefs of Hawke’s Bay were concerned. (1.) Te Hapuku, in 1847, rooted up and destroyed the young growing crop of *kumara* belonging to Takamoana, (afterwards baptized and named Karaitiana = Christian, and, in years long after, one of the Maori Members in the House of Representatives), owing to a severe quarrel between them, or rather between Te Hapuku and Takamoana’s tribe; to show his pre-eminent right to the land where they grew, not far from their respective pas on the east bank of the river Ngaruroro. (2.) Te Hapuku again, in 1850, tore up and destroyed the *kumara* crop, and killed the tame pigs, of the venerable old Melchizedek Te Motu, at Te Haukee (near Te Aute), where the old man then lived almost alone. The offence in this case was, that Te Motu was Te Hapuku’s old family and tribal priest, (and there was now not another left!) and he had dared to become a Christian and to be baptized, and subsequently refused to perform some of his old ceremonies when required to do so by Te Hapuku, saying, that “all such now were of no use whatever!” “I would not have done so,” said Te Hapuku to me, afterwards, when expostulating with him, “had he but listened to me for a short time longer, and performed the ceremony of horohoro over my children before that he left me; now there is no one left to do it!”

"Each district" (*qu.* plantation, or division of a plantation) "was fenced in, generally with reeds, which were placed so close together that there was scarcely room for a mouse to creep between." (*loc. cit.*)

For the *taro* — *Colocasia antiquorum*, or *Caladium esculenta* — a very different soil and damp situation was required; light and deep yet loamy, or alluvial, often on the banks of streams or lagoons, and sometimes at the foot of high cliffs near the sea.

For their valuable gourd the *hue*—*Cucurbita* sp.—a damp rich soil, with warmth to bring it to perfection, was required; this was often sown in, and [9] near to their *taro* plantations, and sometimes on the outsides of woods and thickets.

In those plantations all worked alike: the chief, the lady and the slave; and all, while so engaged, were under a rigid law of minute ceremonial restrictions, or *taboo*, which were invariably observed. Fortunately for them, the modern unnecessary and expensive indulgence, or evil, of tobacco was wholly unknown! And there was nothing of a similar time-consuming nature known to them to have taken its place. It was a pretty sight to see a chief and his followers at work in preparing the ground for the planting of the *kumara*. They worked together, naked, (save a small mat or fragment of one about their loins), in a regular line or band, each armed with a long-handled narrow wooden spade (*koo*), and like ourselves in performing spade labour, worked backwards, keeping rank and time in all their movements, often enlivening their labour with a suitable chaunt or song, in the chorus of which all joined.

If it were a pleasing sight to notice the regularity of their working, it was a still more charming one to inspect their plantations of growing crops: 1. The *kumara* plants, springing each separately from its own little hemispherical hillock—just the size and shape of a small neat mole-hill. 2. The *taro* plants (each one beautiful in itself) rising from the plain carefully levelled surface, which was sometimes even strewed with white sand brought from a distance, and patted smooth with their hand;<sup>513</sup> and 3. the *hue*, in its convex bowl-shaped pits, or "dishes," as Cook calls them. The whole *tout ensemble* was really admirable! The extreme regularity of their planting, the *kumara* and the *taro* being generally set about two feet apart, in true quincunx order, with no deviation from a straight line when viewed in any direction, (to effect this they carefully use a line or cord for every row of *kumara* in making up the little hillocks into which the seed-tuber was afterwards warily set with its sprouting end towards the north); the total absence of weeds, the care in which all was kept—even to the sticking into the ground, when required, leafy and yielding branches of *manuka*—*Leptospermum scoparium*, (owing to the high westerly winds, or to the situation being rather exposed),

and last, though in their eyes by no means the least, [10] were spells, and charms, and invocations, recited by their priests—*tohungas*—to ensure a good crop; for this purpose alone a priest of renown was often fetched from a distance and at a high price. Instances, too, are known, in their ancient history, of some of such *tohungas* having been killed by the chiefs, through some alleged, or real, oversight or fault, or omission, in the performance of their ceremonial taboo. All, however, clearly showed much forethought, and that no amount of pains, both natural and supernatural, had been spared, and that their agricultural work was truly with them a labour of love!

Nor did their labour end here: there was still the *kumara* barn, or store, to be built, and this was almost universally the well made, handsome house of the village; the one sure to catch the eye of the European visitor, from its size, shape, neatness, and profusion of ornamental carved works inlaid with pearl shell (*Haliotis*) and stained red. Its walls were made of yellow reeds of the *Arundo*, placed neatly together, with a squared plinth of the dark stems of the fern tree set at the base to keep out the rats and wet, while its roof was well secured with loosely twisted ropes, composed of the airy, elastic, climbing stems of the durable *mangemange* fern (*Lygodium articulatum*), and a drain cut round it, to throw off the rain and other waters. Sometimes those stores were also elevated on squared and dubbed and ornamented posts; and sometimes even built up in the forks of the main branches of a dead tree. All those storehouses were rigidly tabooed, as were also those few persons who were allowed to visit them for any purpose; all visits being formal and necessary. The labour bestowed in those early times, before the use of iron, was immense, and they were mostly renewed as to the reed work every year.

I have already alluded to the large amount of extra heavy labour imposed upon the Maori cultivators of the soil through the introduction of the pig; much also arose from the coming among them of the unwelcome European rat! their own little indigenous animal not doing them any harm. I remember when at the Rotorua Lakes, nearly forty-five years ago, visiting a very large *kumara* plantation (that neighbourhood being a principal and noted one of all New Zealand for its fine and prolific kumara crops, said to be owing to the extra warmth of its heated volcanic soil). In the midst of the cultivation was a little hut (reminding one forcibly of "a lodge in a garden of cucumbers"), and this by night was inhabited by two old men, watchers, who had a great number of flax lines extending all over the plantation in all directions, to which lines shells of the fresh-water mussel (*Unio (?) menziesii*) were thickly strung in bunches; these lines were all tied firmly together into one handle of knotted rope, which those two old men had to pull vigorously, every few minutes throughout the night, to cause a jingling [11] noise, and so frighten and scare away the thievish rats from gnawing and injuring the growing *kumara* roots.

One striking peculiarity, however, should not be omitted—in which, too, I think, they differed from all agricultural races—their national non-usage of all and every kind of manure; unless, indeed, their fresh annual layers of dry gravel in their *kumara* plantations may be classed under this head. But their whole inner-man revolted at such a thing; and when the early missionaries first used such substances in their kitchen-gardens it was brought against them as a

513 WC: "Leaving Te Kawakawa and travelling south by the seaside, I passed by several of the taro plantations of those natives. These plantations were large, in nice condition, and looked very neat, the plants being planted in true quincunx order, and the ground strewed with fine white sand, with which the large pendulous and dark-green shield-shaped leaves of the plants beautifully contrasted; some of the leaves measuring more than two feet in length—the blade only. Small screens formed of the young branches of *Leptospermum scoparium*, to shelter the young plants from the violence of the winds, intersected the grounds in every direction."—Excursion in N.Z., in 1841:—"Tasmanian Journal of Science," Vol. II., p. 217.

charge of high opprobrium.<sup>514</sup> And even in their own potato planting in after years they would not use anything of the kind, although they saw in the gardens of the missionaries the beneficial effects arising from the use of manure; and, as the potato loves a virgin, or a strongly manured, soil, the Maoris chose rather to prepare fresh ground every year, generally by felling and burning on the outskirts of forests, with all the extra labour of fencing against the pigs, rather than to use the abominated manure. They also never watered their plants, not even in times of great drought, with their plantations close to a river, when by doing so they might have saved their crops.

## 2. Of their Cultivated Food Plants.

1. The first in every respect and degree was the *kumara*. This plant is an annual of tender growth, and was one of their vegetable main-stays. Their use of this plant, as I take it, is from pre-historical times; as their many legends about it evidently show, which I purpose hereafter to lay before you in a future paper. In suitable seasons and soils its yield was very plentiful. It had, however, one potent enemy of the insect tribe, in the form of a large larva of one of our largest moths.<sup>515</sup> This larva was named *anuhe*, *awhatō*, *hawato*, and *hotete*, and as it rapidly devoured the leaves of the young kumara, it was quite abhorred by the Maoris, who [12] always believed that they were rained down upon their plants. Sometimes their numbers were almost incredible, as some of us have also seen in the abundance of the more common caterpillar pests in certain seasons. I myself have often marvelled at them in their number, and where they could possibly have come from; baskets full being carefully gathered from the plants, and carried off and burnt. This job of gathering them, though necessary, was always greatly disliked.<sup>516</sup> Long before the roots, or tubes, of the kumara were of full size, they were regularly laid under contribution; each plant was visited by old women, with their little sharp-pointed spades or dibbles, who were quite up to their work, and a few of the largest young tubers selected and taken away, and the earth around the plant loosened, when it was again "hilled" up;—an operation not unlike that of our potato hoeing, only much more carefully performed, as at the same time they took away every

514 WC: A striking incident illustrating the above, which once happened to me, may not be out of place here. I was travelling, as usual, in the interior, where I had often been before, and having brought up at a small village for the night, in the morning early I went and gathered some remarkably fine succulent tops of the wild *Brassica* ("Maori cabbage" of the settlers) which was running up to flower, for my breakfast; a thing I almost daily or oftener did; these I brought to my tent, and gave to my Maori cook, who had travelled with me many years. At breakfast, however, I missed them, having, instead, only some very inferior leaves. On my enquiring after my fine vegetables, I was told that my gathering them had been seen by some of the people of the village, who ran and told him of it, and that he had therefore thrown them away, for they had grown on the river's bank not far from the village privy. I should also add that the young man himself was above all such notions, having often worked in my garden at home, and there used manure.

515 WC: See Trans. N.Z. Inst., Vol. XI., p. 303, and Vol. XII., p. 121.

516 WC: A few years after I came to Hawke's Bay to reside—I think in 1846—the tribe of the late chief Karaitiana, who lived near me, had their large kumara plantation regularly set upon by those immense larvæ. The chiefs borrowed all my turkeys, which were put into their kumara plantation, and in a short time they cleared the whole ground of those destructive creatures.

withered leaf and upper outlying rootlet, and weak sprout. Those young tubers were carefully scraped, and half-dried on clean mattings in the sun—being turned every day and carefully covered from the dew, and when dry either eaten or put away in baskets as a kind of sweetish confection or preserved tuber,<sup>517</sup> greatly esteemed by them, either raw, or soaked and mashed up with a little warm water, and called *kao*.

At the general digging of the crop in the late autumn (called by the Maoris the *hauhakenga*), but always before the first frost, great care was taken in the taking up of the roots, when they were carefully sorted according to size and variety (if of two or more varieties in the one plantation), all bruised, broken, or slightly injured ones being put on one side for early use; then they were gathered up into large flax baskets, always newly made, and in due time stowed away in the proper store; taking great care of doing so only on a perfectly dry sun-shiny day, as they had to guard against mouldiness of every kind, which was destructive and dreaded.

It is impossible to estimate, even approximately, the immense quantity of this root which was annually raised by the old Maoris; especially before [13] they took to the cultivation of the introduced potato. At their large and noted tribal feasts,<sup>518</sup> (*hakari*, at the north, *kaihaukai*, at the south,) enormous quantities were used, as well as at their commoner feasts held on account of births, betrothals, marriages, deaths, etc.; on such great occasions the quantity was often increased through profuse ostentation, for which, while the chief and the tribe gained a great name, they all

517 WC: In an old work on Gardening and Botany I find the following:—"The sweet potato" (*Batatas edulis*), Sir Joseph Banks observes, "was used in England as a delicacy long before the introduction of our potatoes; it was imported in considerable quantities from Spain and the Canaries, and was supposed to possess the power of restoring decayed vigour. The kissing comfits of Falstaff, and other confections of similar imaginary qualities with which our ancestors were duped, were principally made of these and Eryngo roots,"—Dow's General System, Vol. IV., p. 401.

518 WC: That some correct idea may be formed of the large amount of cultivated vegetable food consumed at those great tribal feasts (*hakari*)—seeing all such has long gone into disuse, I may state that the food was generally piled up in the form of a pyramid, from 80 to 90 feet high, and 20 to 30 feet square at the base, gradually rising to its apex. To build up this, the straight trunk of a large tree was first obtained from the forest, and dragged out with no small difficulty to the spot fixed on for the feast, there it was disbarked or dubbed down and set up, other strong poles were then set up around it, a series of horizontal stages were then made all round the scaffolding at from 7 to 9 feet apart, and the whole was filled in and built up with food packed into baskets; presenting, when finished, one solid mass of food! The getting-up of one of those feasts always took a long time, often more than a year, though many willing hands were employed, and the labour expended was prodigious! At a small feast (comparatively) of this kind, and almost the last in those parts, held at the Waimate (Bay of Islands) in 1835, and given to the people of Hokianga, 2,000 one-bushel baskets of kumara were used; and at a similar feast given by the noted warrior chief Te Waharoa (father of the equally notable Wiremu Tamihana Tarapipipi), at Matamata, in 1837, to the people of Tauranga, the following inventory of the food was taken down at the time by a credible eye-witness:—"Upwards of 20,000 dried eels, several tons of sea-fish, principally young sharks (a great Maori delicacy), a large quantity of hogs, 19 big calabashes of shark oil, 6 albatrosses, and baskets of potatoes (sweet and common) without number."

(especially the women and children) subsequently suffered severely.

But, in my opinion, one of the most remarkable things pertaining to this useful root, or tuber, has yet to be noticed; namely, its many marked varieties, which were also old and permanent. I have, I think, known more than thirty varieties; and I have lists from the north and the south of several others; and have also heard of others, possibly ten more; while some old sorts were known to have been lost.<sup>519</sup> In this respect the tubers differed just as potatoes do with us. Some were red-skinned, some purple, and others white; some were rough-skinned, and others smooth; some had red flesh, or were pink, or dark purple throughout, others were white; some were even and cylindrical, others were deeply grooved or regularly channelled; some were short and thick with obtuse ends, others were long and tapering with pointed ends; and I never once noticed that there was any mixture (as it were) of the several varieties; all came true to sorts planted, as in the potato with us; their only sign of degeneration through soil or drought was in the size. Now all those several varieties were of old, [14] and only handed down by the strict preserving of the seed (or tuber); and the question with me has ever been, How were they first derived? From the Maoris themselves I never could learn anything satisfactory respecting them,—save that they had had them of old from their forefathers. (Of course, for the time, I set aside their legends concerning them).

I have carefully enquired if the old Maoris had ever known the kumara to flower, but they all said, "No; never heard of such a thing." And they never harvested their crop until after the withering of the leaves of the plant. I have also frequently enquired if any sort or variety had ever been newly raised by them, or their immediate fathers; to this they also replied, "No."

Is it not possible that in ancient times this plant did flower here, and that the old cultivators, either by design or accident, obtained their sorts by sowing its seed?<sup>520</sup> The northern tribes, especially the Ngapuhi, had, more than forty years ago, obtained several new varieties of potato by sowing its seed; to which, however, they were first led by accident, having noticed some young plants which had sprung from self-sown seeds of the ripe potato berries, and from them they had obtained several good and prized sorts.

Is it also not possible that this plant (kumara), through constant, assiduous, early, artificial cultivation, extending throughout centuries, has permanently changed in this respect of non-flowering, as it is known the early varieties of potato have done in England through repeated cultivation? There the earliest varieties do not produce flowers or seed. There is an excellent paper by Mr. T. A. Knight in the Philosophical Transactions for 1806 (London), bearing on this subject,<sup>521</sup> in which Mr. Knight shows, from experiments made by him, that the same fluid or sap gives

519 WC: See Appendix A.

520 WC: Here may also be noticed that a striking peculiarity obtains among the Maoris generally with respect to the name given to the tubers of this plant when used for planting—*purapura*, which is the proper Maori name for all real small seeds, as of cabbage, etc. It seems strange, seeing they revel in such a multiplicity of names for every variety of natural objects, and for the several parts of any one thing. *Purapura* is also the name given to potatoes when used for planting.

521 WC: See Appendix B.

existence alike to the tuber, the blossoms, and the seed, and that whenever a plant of the potato affords either seeds or blossoms, a diminution of the crop of tubers, or an increased expenditure of the riches of the soil, must necessarily take place. Following this out he succeeded in producing varieties of sufficiently luxuriant growth and large produce which never produced blossoms. I have already shown that the Maoris used no manure, and planted the kumara in poor gravelly soils devoid of all richness.

2. The second plant generally cultivated by them was the *taro*. This [15] also was propagated by planting its roots or tubers, or, more properly speaking, its small offset shoots, which were carefully pinched off for that purpose; but, being a perennial, and always "in season," its tubers were not taken up and stowed away for future use, but were generally dug up when wanted for cooking, etc. Hence it was doubly useful to them, in some respects more so than the *kumara*. It was also very prolific, increasing its set tubers rapidly, both in size and in the offshoots, in a suitable soil, so that a clump of *taro* tubers passed into a proverb,<sup>522</sup> to show the number and resources of a strong tribe. Of this plant there are also more than twenty varieties or species,<sup>523</sup> which, like the *kumara*, differed greatly in size, in quality, and in the colour of its flesh; besides one which is known to have been introduced since the time of Cook's visit. This newer one is called *taro hoia*; it is a much larger root (tuber) and plant, and it is also coarser in its flesh, and is not so generally liked. Both the tubers and the thick succulent stems (petioles) of the large leaves of the plants were eaten, but only after being thoroughly cooked; a severe burning of the lips, mouth, and throat, attended by constriction, followed the imprudent eating of it when not fully dressed.

This esculent tuber was made to play an important part in many of their higher ceremonial observances—as, at the naming of a newly-born chief's child—at the death of a chief—at the exhumation, which in due time always followed—and also at the visits of welcome strangers. For each observance, or feast, the ancient Maoris used their particular varieties or sorts; a similar usage was also practised on such occasions with their varieties of animal food. This custom they could not so well have carried out with their *kumara*, as there were seasons when it was not to be had at all.

3. The third food plant cultivated by them was a fine one of the gourd family, called by them the *hue*. This noble and highly useful plant was annually raised from seed, and was their only one so propagated; and, curiously enough, of this plant, though yielding seed in great plenty, there was only one species and no varieties. Its seeds, before sowing, were wrapped up in a few dry fern fronds, (*Pteris esculenta*), and steeped in running water for a few days. It was to them of great service, furnishing not only a prized and wholesome vegetable food (or rather fruit) during the whole of the hot summer days while it lasted, and before their *kumara* were ripe for use, but was also of great use in many other ways. It was always a pleasing sight to see it growing in a suitable soil, as it grew fast and [16] looked so remarkably healthy with its numerous leaves, large white flowers and fruit, the latter often of all sizes, from that of a cricket ball up to that of a globular, pear-shaped, or spheroidal figure, capable of holding several gallons. As an article of food it was only used when young, and always cooked—baked like the

522 WC: See "Trans. N.Z. Inst., Vol. XII., p. 140.

523 WC: See Appendix C.

*kumara* and *taro*, in their common earth-oven—and eaten, like them, both hot and cold. Prodigious numbers of them were formerly daily consumed in the summer season. It was from this plant that the Maoris obtained all their useful vessels, for holding water, oils, cooked animal food, etc. This was done by carefully drying and hardening the fully matured fruits with the heat of the sun and fire, and just as carefully scooping out all their contents, through a small hole made near the stalk end. In the very small calabashes so made, they kept their perfumed oils, and rouge, for anointing; of the medium sized and large ones they made useful dishes, and all their common water calabashes, while the few very largest were neatly manufactured into pots for holding preserved and potted birds. For this purpose the stalk end was cut off, and it was ingeniously fitted with a hollow cylindrical neck of carved hard wood, cut out of one piece, and always made large enough to admit a man's hand through it; this was firmly fixed on above, while below, the rotund vase was also fitted with three (or four) legs to stand on, and to keep it from off the ground. These big vessels were always prized and taken great care of, sometimes they were named, and some lasted a whole generation or longer, and were handed down as heirlooms.

4. Another plant which was also cultivated by the old Maoris as an article of food, was the *tipara*, a species of *Cordyline*; this was propagated by its side-shoots and suckers. Its thick succulent stem, as big as, or bigger than, that of a very large cabbage or brocoli, was cooked and eaten. In these parts, however (Hawke's Bay), it has become very rare; indeed, I only know of the plants now growing in my own garden; which I raised from a single plant I found in an old Maori cultivation belonging to the father of the present aged chief Tareha, in 1845. I have had some dozen of plants from it, and although they were very healthy and grew well, not one of them ever flowered! in this respect resembling both the *kumara* and *taro*. It grows to 4–5 feet in height, never quite erect; and then it sends out suckers from below ground and from its stem, and dies. Thirty years ago, whenever some of the oldest chiefs here should happen to see this plant growing in my garden, they would invariably longingly beg for its stems to cook for a meal, saying how much they liked it. Its leaf is shorter and broader and of a finer texture than that of *C. australis*, with slightly recurved edges, and its bark is also much thinner, and smooth, not rugged. I sent specimens of it (leaves only) to Dr. Sir J.D. Hooker, [17] in 1850—2, and then hoped I should see both flowers and fruit! I provisionally named it *C. edulis*. It was formerly cultivated extensively, both at Waikato and Upper Whanganui, also here in Hawke's Bay, and in other places; and, from what I have heard from the Maoris, there also it did not produce flowers.

Is this another curious instance of a plant losing its powers of producing blossoms, etc., through long and continuous cultivation from its suckers?—a kind of vegetable breeding in-and-in.

I have also good reasons for believing there was yet another and a much smaller species of *Cordyline* formerly cultivated for the sake of its root. (It was in 1838–9, at Waikato.) Young seedlings were carefully selected and planted out, and in the following year the root was fit for use. The plant was then dug up, stacked in small piles, and dried in the sun; while drying the fibrous roots were burned off; and when sufficiently dry the roots were scraped and baked slowly, requiring 12–18 hours to cook them. These were chewed, or pounded and washed and squeezed, and used

merely to extract the saccharine matter, which was eaten with their fern-root to give it a relish. I have never seen the plant itself, only its dried roots. It may be the same as *Cordyline pumilio*, but this I doubt.<sup>524</sup> By the Maoris of Waikato it was called *mauku*.

5. Two other food-yielding plants were, I believe, also cultivated by the ancient Maoris, viz., the *karaka* (*Corynocarpus laevigata*) and the *kohoho*<sup>525</sup> (*Solanum aviculare*.) Occasionally, at least, they planted them both in their plantations, and also in their towns (*pas*). And this will account for the *karaka* being often found isolated, or in small clumps of old trees, in many spots inland, away from its own natural habitat near the sea. I am the more inclined to believe that they did so, from the fact of my having been informed many years ago by an old priest (*tohunga*), of the secret tabooed way to make a young *karaka* tree, on its being so transplanted, become fruitful. Nevertheless they always preferred the fruit of the wild or naturally growing ones; so, under that head, I shall mention its serviceable fruits and its uses. And just so of the *kohoho*, which may still be found of a large size in old *pas* and plantations. A cultivated *kohoho*, in ancient days, belonging to the Chief Uenuku, is made to play an important part in one of their legends.<sup>526</sup>

As I have prominently brought the old Maoris before you in this paper, as great cultivators of the soil, I will also briefly mention two other plants (not being food-producing plants) which they also cultivated for textile uses; seeing they were but of two kinds,—including the several varieties of one of them. [18]

## II.—OF PLANTS FORMERLY CULTIVATED FOR THEIR TEXTILE USES.

1. I will first mention the *Aute* = Paper-mulberry (*Broussonetia papyrifera*), although, as far as I know, not a single vestige of this plant is now left in New Zealand! its name remains, and that is all. Few Maoris now living have ever seen it; and yet, in ancient days, it was commonly and largely cultivated throughout the country.<sup>527</sup> At the time of Cook's visit it was very common, and seen by those early voyagers everywhere, both growing in their plantations and worn in fillets by the chiefs in their hair; the thin white bleached paper-like bark contrasting excellently well with their ebon locks! Very many of the heads of Maoris, in the

524 WC: See Part III. of this paper.

525 WC: This is its name at the north, but *poporo* and *poroporo* at the south.

526 WC: See Grey's Mythology, p. 124.

527 WC: Parkinson, in his "Journal," has more particularly noticed this plant; he says (speaking of the Bay of Islands), "Saw many plantations of kumara, also plantations of aute, or cloth trees." I once saw this plant growing, in an old plantation at the head of the Kawakawa river in the Bay of Islands,—that was in 1835. There was however but one small tree left, which was about 6 feet high, with few branches and not many leaves on them, it appeared both aged and unhealthy, and it soon after died. On my finally leaving the Bay of Islands in 1844, to reside at Hawke's Bay, I heard of some aute trees still living at Hokianga. I wrote to a chief of my acquaintance there (E. M. Patuone), who kindly sent me several good cuttings; saying (in a letter) that the plant there was nearly totally destroyed by the cattle of the Europeans. Unfortunately, my removing was so greatly hindered, in not meeting readily with a vessel, and the summer also advancing, that I lost them all.

plates in both Cook's Voyages and Parkinson's Journal, are drawn thus ornamented with the *aute*. Yet though commonly cultivated, it was of small size, and never was used by the Maoris for clothing purposes, as it was by many other of the Polynesians. The chiefs also made ornamental paper-kites of it, which was one of their great diversions in times of peace, especially among the older men.<sup>528</sup>

2. The New Zealand Flax Plants (*Phormium tenax*, and *P. colensoi*) in some of their many prized varieties, were also largely cultivated by the ancient Maori. First—they always had planted near to, if not adjoining, their food cultivations and their towns and villages, the commoner sorts of this useful plant, which was constantly used by them in its green state for the daily making into baskets and dishes for cooked food (all such woven dishes not being used a second time), and, also, for common and hasty tying purposes; but those common kinds (which grew spontaneously almost everywhere, except in the deep forests,) they did not make use of for making thread, cord, fishing-lines, nets, and garment weaving purposes; these superior kinds were cultivated. Second—of the varieties of New Zealand flax known (even now) to the Maoris, there are more than 50.<sup>529</sup> I have seen old plantations of this plant (or, rather, [19] the remains of them) more than forty years ago in travelling.<sup>530</sup> The variety which was suited (in its prepared fibre) for making into fishing-lines, would not serve for making nets (which were made of unscraped flax); and what was required for the woof of their superior woven flax garments, would not serve for the warp of the same,—while another kind again was used for their dyed borders; they also used a different variety for the girdles of their chiefs; another variety for the hard, almost closely woven, sack-cloth-like lining of their prized dog-skin and kiwi-feather garments; another kind was used for the inner garment (or small apron) of the young girls of rank; another sort for the common shaggy rain-protecting shoulder mats; and yet another sort for making the all but impenetrable hard shield, or arm-buckler, used to receive and ward-off spear thrusts, in their assaulting of forts. The dressed fibre of some kinds was soft, of others glossy and silky, while of other kinds it was harsher and stronger, more linen-thread like; and the colours and lengths of their staple also greatly differed.

A similar question here arises in the mind, as has already been brought to our notice in considering both the *kumara* and the *taro* plants, namely—the old Maoris having many distinct and well-known varieties of their flax, how did they get them? And while this question is more easily and naturally answered, owing to the *Phormium* plants abundantly seeding, still, there is another (or more than one) remaining to be met:—Did the old Maoris, the ancient cultivators of the flax plant, did they accidentally discover

528 WC: For proverbs concerning it see "Trans. N.Z. Inst.", Vol. XII., p. 145.

529 WC: See the work on *Phormium tenax* by Dr. Hector.

530 WC: In travelling through the dense forests of the interior, on two occasions, I came suddenly upon a small cleared area of an acre in extent, which had been regularly panted with a fine variety named *oue*. At that time, and for many years, no one lived within miles of it, and my Maori companions gazed with wonder, some taking a leaf with them to show when they got home. So here, in Hawke's Bay, in 1845, there were the remains of old plantations of several varieties. In the spot where the township of Havelock now stands was a fine old plantation, and from it I obtained specimens of a prized sort, named *tapoto*, for Sir W.J. Hooker, which I thought to be a new species.

all, or any, of those several sorts naturally produced? Or did they, in their cultivating of the plant, and so bringing together the finer and choicer specimens—did they, in their so doing, cause, or help to raise the new varieties?

This question, however, cannot readily be answered; although, duly considered, (especially in connection with what has preceded about those other cultivated plants), it will, I think, be found to have a good deal to do with that very important question which has yet to be solved—*the great antiquity of the Maori race*. Of which more anon.

### III.—OF THE WILD OR UNCULTIVATED FOOD-PRODUCING PLANTS OF THE ANCIENT NEW-ZEALANDER.

THESE were many in kind, some strange and peculiar, yet mostly all common. [20] They were obtained from nearly all the great natural vegetable families,—trees, shrubs and herbs, ferns, algæ, and fungi. In fruits, leaves, and roots.

Strange to say, the trees and plants generally of this large and densely forested country,—blessed, too, with an excellent temperate and moist climate,—scarcely bore a single fruit worthy of being eaten by a European! Still, it was wrong to write—"In New Zealand there are no fruits or vegetables of indigenous and spontaneous growth; all they have must be cultivated and tended constantly."<sup>531</sup>

Nature was indeed niggard to the Maori people, as to fine fruits and edible vegetables, yet they made the best of it, and commonly used advantageously what she had provided for them. Certainly the preparation of several before that they were fit for eating was highly curious.

In remarking on their various kinds of vegetable food of spontaneous growth, I think the better way will be to take them as they valued them and used them; so setting aside both their natural and botanical sequence.

1. The first, then, is the world-renowned fern-root = *aruhe*, *roi*, or *marohi*,<sup>532</sup> = *Pteris esculenta*,—rightly so named by its first botanical discoverer, Forster; and though very well known by its common name to Europeans and to settlers (with whom, also, the plant itself is familiar), yet the edible fern-root is far from being rightly understood; I shall, therefore, have to offer a few remarks concerning it.

(1.) As to its proper localities:—

Good edible fern-root,—that which produced a large amount of *fecula*, was not to be found everywhere. In some districts, particularly at the north, it was comparatively scarce, and had to be dug and brought many a weary mile on the backs of the people to their homes, especially to their sea-side or fishing villages.<sup>533</sup> Here, however, in Hawke's

531 WC: Tate's "Account of N.Z.," p. 106. Tate had also resided in New Zealand 7 years!

532 WC: It had also several other names, some of which were mythological, and some allegorical.

533 WC: As corroborating this, I may here mention that at the reading of this paper I exhibited some superior fern-root (though not of the best quality) which I had recently obtained from Pakowhai from the late chief Karaitiana's tribe. They had had three baskets of it sent to them as a present, some six months ago, from a place about 20 miles inland from Te Wairoa (Hawke's Bay); it had grown in volcanic soil, the roots being much pitted, and still having many bits of pumice adhering to them. They contained a very large amount of *fecula*, and

Bay (south side), in many patches of the low-lying rich alluvial grounds, on the banks of the rivers, it was more readily obtained. The best roots were produced in loose rich soil, where the plant had been undisturbed for years. I remember, many years [11] ago, travelling over an isolated hill of loose rich earth in the interior, which had been long famed for its fine fern-root; and for the occupancy and use of that hill for digging the root, several battles had been fought. The fern-root obtained from hard ground, was, at the north, collectively called *paetu*; while that got from soft, loose, red soils was called *koauau*. All fern-root diggings and places of good fern-root, were rigidly preserved; no trespassing was ever allowed.

(2.) As to the proper time of digging, and manner of drying it, etc.—The old Maoris had their set fixed times of digging the root, in the spring and early summer months; they knew well when the roots were abounding in nutriment, and would no more have dug them up in the wrong season than we should our potatoes. They were also careful not to burn off the fern plants from their digging grounds, save at the proper time of the year, as such careless burning injured the roots; but burning off the fern in the proper season, in August, improved them. In doing so they were ceremonially careful (at the north) to use the wood of two plants for firing the fern,—the *kareao* (*Rhipogonum scandens*), and the *mahoe* (*Melicytus ramiflorus*). In digging it, which was always done with their long wooden sharp spade (*koo*), they took care not to bruise or break it into pieces; at the same time they examined it by breaking, etc.,—if it were dry internally, then it was good, and they went on with their digging; if wet, inferior. They carefully put it up in loose stage-like piles, on wood, to dry in the wind, shading it from the sun. And when it was quite dry, at the end of a fortnight, they went over it, selecting and separating it into several kinds or qualities, of which they had many (just as with us, the various kinds of wheat, potatoes, etc.); some being for the chiefs, some for warriors, some for visitors, some for common daily use, and some for the slaves.<sup>534</sup> Each quality was put up separately, and carefully stored away in large quantities from both sun and rain for future use,—properly harvested, dried, and stored, it would keep good for years.

(3.) In preparing the fern-root for daily food, it was never used green. The dried root was slightly soaked in water, roasted a little on the embers, and beaten soft with a stone pestle, or short hard-wood club, or one made from the bone of a whale (each properly made for the purpose), on another large smooth waterworn stone; this beating of the root was constant and hard work. In the roasting and beating the black outer bark, or skin, peeled off. The better quality root so prepared was as soft as a bit of tough dough; it soon, however, became stiff and hard, when it snapped like glass or good biscuit. When it was prepared in large quantities, for taking with them to sea in their coasting voyages, and also for going to fight, then [22] it was made up into a kind of pounded mass. In the spring of the year the succulent young shoots (*monehu*), which rose out of the ground like asparagus, were also eaten fresh; they were very mucilaginous.

No doubt the fern-root was very nutritious; the old Maoris thought highly of it, and always liked it, even preferring it in the summer with fresh fish, of which, in that season, they

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commonly measured 12–15 inches in length, and 3 inches in circumference.

534 WC: See Appendix D.

always had abundance. They also used it in the summer season soaked, after pounding, in the sweet luscious juice of the berry-like petals of the *tutu* (*Coriaria ruscifolia*). Pigs fed on it, in their wild state, always yielded the finest and most delicious pork; as we well knew and experienced before that we had either beef or mutton in the country.

Both by way of illustration and of proof, of how the fern-root was formerly prized, I here bring forward the following:—

(1.) It is stated of the New Zealand chief Kiinui—who had been basely kidnapped and carried violently away from his native home (Doubtless Bay) by M. de Surville, commander of the French ship *Saint Jean Baptiste*, in December, 1769, and who died of a broken heart at sea, on the 24th March, 1770, off the Isle of Juan Fernandez, on their passage to France—that “while he ate heartily of all the ship’s provisions, he pined after the fern-root, and always regretted the want of his primitive food.”—(*Rochon’s Voyages aux Indes Orientales*, Tom. III., p. 389.) Curiously enough Captain Cook, on his first voyage, had only just left that bay on his voyage north, when De Surville entered it! They did not, however, see each other’s ships.

(2.) The Fable of the Fern-root and the *Kumara*.—The fern-root and the *kumara* were one day bantering each other; at last the *kumara* rudely said to the fern-root, “Thou art an unsightly thing! containing but small sustenance from long eating.” Then the fern-root answered his antagonist triumphantly (for it has passed into a proverb with us), “Although I am but an unsightly thing to look at (as thou sayest), carry me to the water and soak and prepare me properly, and when the sea-breezes are blowing, then it will be nothing else but the joyful cry of ‘prepare! prepare!’”<sup>535</sup>

Meaning, that in the summer season, when the sea-breezes blow daily, and the choicest fish in large shoals approach the coast and are caught, and [23] the cockles and other prized bivalves are in their season, (and when, too, there are no *kumara* to be had), then the cry continually will be—“Prepare the nice root as a delightful adjunct with our fresh fish.”

(3.) Among the many diversions of the young folks in the olden time, were those of witty and laughable questions and answers, of course taught them by their seniors. Here is one, showing how greatly they prized the fern-root—it is the diversion of a party of young girls—it is called, “What is thy husband to be?” And it runs thus:—

*Question:* What is thy husband to be?

*Answer:* A man who well knows how to cultivate *kumaras*.

*Rejoinder:* Then thou must seek such, away, in a fine sheltered soil, and under a powerful chief to protect.

Again the question is put:

*Q.* What is thy husband to be?

*A.* A man who is a good and lucky fisher.

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535 WC: I find that Taylor has given this fable, in incorrect Maori and worse translation (!) as usual; not apprehending the real gem of the excellent retort, through which it had passed into a proverb. To which, and worse still, he has added this remark,—“Formerly fern-root was nearly the sole food of the Natives during the winter months. It was beaten indoors, on account of the constant rain, and their houses being always filled with smoke, the eyes were as constantly suffused with tears.” (Loc. cit., p. 302.) I copy this remark as being quite in keeping with the erroneous ones copied at pp. 4–5, footnote.

*Rej.* Ah! yes, at times, now and then, when the sea is smooth.

Again the question is put:

*Q.* What is thy husband to be?

*A.* A man who is good at digging fern-root.

*Rej.* That is the choice one: always a pile of your own, stacked in store, ready at hand for the wife to pull from.

Much of the beauty and wit of this little piece is lost in a translation; in the original it is exceedingly terse, full of meaning, and semi-poetical.

(4.) In a very old and quaint semi-genealogical song, the heavenly origin, or birth, of the fern-root is thus given (omitting the introduction):

—This tradition (is) not from me,—  
From ancient times (was) this tradition;  
Mine (is) merely an announcing,  
A proclaiming to the habitable world.  
Thus I speak forth, that thou mayest hear;  
Nevertheless, (it) has been repeatedly heard.  
... From Rarotimu was born  
The closely-woven-mat<sup>536</sup> of-the-sky  
Which verily formed<sup>537</sup> the Fern-root;  
There, upon the great broad back of the sky,  
It was clinging closely.  
But when Taane<sup>538</sup> uplifted his father on high,  
(Separating him for ever from his wife, the earth),  
Then the Fern-roots fell off rattling down below  
To the earth beneath<sup>539</sup> who received them,  
[24] Henceforth to stand in her fertile vales and sides.  
In the times of deception<sup>540</sup> they were first thoughtlessly  
(collected),  
But thoughtful-ability first selected them properly,  
And planted them fittingly out into little holes  
Sticking them in securely—  
So as to become firmly-fixed roots of the Fern.<sup>541</sup>  
At last, the succulent crosier-like shoots  
Appeared, uprising among the habitations of men;  
And (they were) named  
(The) Young-lady-who-showed-how-to-dig-up-her-lord.<sup>542</sup>

A piece very difficult of translation, owing to its containing such a large amount of compressed allegory, referring to their ancient mythology and cosmogony. It is almost unique (as far as I know), and therefore I have given a free literal translation of it, with a few notes.

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536 WC: Or, Vegetable carpet.

537 WC: Or bore; or caused to grow.

538 WC: One of the sons of the Sky (father) and Earth (mother.)

539 WC: Lit. the Kicked below: i.e. Mother Earth.

540 WC: Or Deceit; or Imposition; or Carelessness.

541 WC: Lit. Haumia; one of the sons of Sky and Earth; who, at the great separation, remained with his mother, and is called the Father, Former, or Precursor, of all vegetable food spontaneously growing—particularly of the common Fern.

542 WC: Or, Superior, Master, or Forerunner. Lit. The name is, Miss- (or, Daughter-Lady) dig-up-thy-lord; meaning, that the young shoots of fern showed annually where the best (thickest, strongest) roots, which produced them, were to be found; and, also, in their being used as food by man, they enable him to persevere in digging them up.

To the foregoing Maori testimony I would just add a few brief extracts from the writings of their first European visitors respecting the fern-root.

Captain Cook says: "Instead of bread they eat the root of a kind of fern. Of these roots, after roasting and beating, a soft substance remains, somewhat clammy and sweet, not unpleasing to the taste."—(*First Voyage*, Vol. II., p. 312.)

Mr. Parkinson (Sir Joseph Banks' draughtsman) says: "They have a kind of fern, the roots of which roasted make a good substitute for bread, especially when their *kumara* is young and unfit for use."—(*Journal*, p. 99.)

Dr. Anderson, who was Captain Cook's surgeon on his third voyage, says: "They use a fern root, which seems to be their substitute for bread, as it is dried and carried about with them in great quantities when they remove their families, or go far from home. This they beat with a stick till it becomes pretty soft, when they chew it, the edible part having a sweet mealy taste, not at all disagreeable."—(*Cook's Voyages, Third Voyage*, Vol. I., p. 158.)

Rutherford also, who had to subsist in part on it, *à-la-Maori*, during his long residence among them, speaks approvingly of it; and a Hindoo, whom Marsden and Nicholas found dwelling among the Maoris, and who refused to leave them, preferred the fern-root to rice.

Twenty-five years ago experiments were made at home in England on the root of the common fern of that country—the brake, or bracken (*Pteris [25] aquilina*), partly under the belief (which still obtains with some folks) that that common British species is identical with this of New Zealand; or, at all events, that both plants were but varieties of one species, which I, however, do not believe, for they differ in several important particulars, particularly in the root itself. The experiments signally failed, very likely owing to the roots having been dug up and used *fresh*, and that perhaps at the wrong season of the year; besides, they did not go about its preparation and cooking in the right way. This is what the celebrated cryptogamist, the Rev. Mr. Berkeley, says about it: "The long creeping rhizoma of a variety of *Pteris aquilina* was formerly much used in New Zealand for food; but, if the New Zealand variety is not more palatable than our own, it is a very undesirable food.<sup>543</sup> The rhizoma of our own form of *Pteris aquilina* when roasted has just the slimy consistence, taste, and odour of ill-ripened brinjals" [*Solanum melongena*.—W.C.] "when cooked, than which nothing can be a worse compliment. The great objection, however, to this as an article of food is the nauseous mucilage. If the rhizoma, after being washed and peeled, is scraped, so as to avoid including the hard-walled tissue, and then mixed with a sufficient quantity of water, the mucilage will be dissolved, and after a few hours may be decanted," etc.—(*Introduction to Cryptogamic Botany*, p. 519.)

2. The second is the succulent fruit of the *karaka* tree (*Corynocarpus laevigata*), a genus confined to New Zealand,

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543 WC: This statement has never failed to remind me of what the Maoris said and did when they first saw our mission wheat growing at the Bay of Islands, a vegetable production too, which they had long wished for, through having so often tasted bread, biscuit, and flour, of all which they were passionately fond. "What!" said they on seeing it in leaf, "Grass, it is only grass;" and then a little later, when early in ear, they hastily and eagerly tried some of its green half-filled grains, and spat them out with disgust and reproof to us.

of which, also, only this one species is known. This fruit, or, rather, in common language, its nut or seed, was of inestimable value to the Maori as a common and useful article of vegetable food, second only in place to their prized *kumara* tuber; and I should have placed it before the fern-root, only it is not so common, being confined to the vicinity of the sea. In its *raw* state, however, it is a deadly poison; a small quantity sufficing to throw into convulsions and great and permanent distortions of the limbs, and to kill; but prepared and cooked, it is perfectly innocent and wholesome. The Maoris ate both the flesh (*sarcocarp*) of the fruit (*a drupe*) when fresh and ripe; and its kernel (*embryo*) or large seeds; it was this latter only that was poisonous in its raw state.

Every autumn the Maoris removed in large numbers,—men, women, and children,—to the *karaka* woods and thickets on the sea-coast, to gather [26] up and prepare the *karaka* kernels for keeping; properly prepared and kept dry these would keep two or three years, or more. The fruits were collected in baskets full,—placed by bushels in very large heated ovens, generally made in the sea-beach above high-water-mark, and there baked and steamed a considerable time, then taken out, put into loosely-woven baskets and laid in running-water, and shaken and knocked about a little, to detach and to carry off all of their outer skin and pulp, leaving the large seed intact, within its own cartilaginous shell of fibrous network (*endocarp*). The baking and steeping completely removed all their poisonous qualities. Afterwards, they were spread out on mats and stages in the sun to dry, and when perfectly dried, stored away in baskets for future use. When used, the kernels, still in their thin yet tough inner skin or husk, were steamed in an earth oven, which softened them for eating. As an article of vegetable food they were greatly and universally esteemed by the Maoris; and were very wholesome.

3. The third was the fruit of the *hinau* tree (*Elaeocarpus dentatus*); a tree generally common throughout the islands, in the forests in the interior, but not near the sea. Of this genus there are two, probably three, species in New Zealand. The fruit, which grows plentifully in small loose bunches (*racemes*), is a small drupe about the size of a large sloe, having a tolerably large and peculiarly shaped furrowed nut within; its skin is hardish, dry, brittle, and shining, and of a dull ash or grey olive colour, and its flesh (if such it may be termed) is also dryish, small in quantity, austere, and altogether uneatable in its fresh and raw state, reminding me of the taste of the acorn. Here, too, the ingenuity and patience of the Maoris were particularly displayed. These fruits were collected in large quantities when ripe from the ground under the *hinau* trees, and placed in water in the hull of a canoe, or some similar large wooden trough; there, after steeping, they were well rubbed in the hands, the nuts, stalks, and bits of broken skin strained out, the water carefully drained off, and the grey coarse meal left as a residuum made into a kind of huge cake, cooked and eaten. By some tribes, however, the fruits were not steeped in water at all, but merely gathered up and pounded in a rude wooden mortar with a pestle-like club, and the whole sifted through a cunningly-devised though coarse sieve, made of the long, straight mid-ribs obtained from the linear leaves of the *tiitree* (*Cordyline australis*). To bake a big cake (20–30lbs) of it thoroughly, took two days. In colour the cake was a blackish-grey, darker than barley or rye bread; the rough unpalatable taste of the fruit in its raw state being wholly lost in the cooking. Although a troublesome and lengthy preparation, especially when the very small amount of

floury meal obtained from each drupe is considered, this food was greatly esteemed, and [27] always made a first-rate dish, when in season, for visitors. The Maoris had even an old proverb as to its superior excellence—showing that it was well worth being roused up out of one's sound sleep to eat it freshly cooked—which, I suspect, arose in a great measure from its large, solid, heavy pudding-like mass—a kind of “cut-and-come-again” dish! of which they had not another such among all their vegetable messes. The rats, in the woods, were very fond of its seed or kernel. Often have I, in travelling through the forests, picked up the nuts, and have been astonished at the patient gnawing of the rats, always made at one end, to extract the kernel, which they also invariably did through a very small hole! the shell of the nut being excessively hard, and the kernel itself very small. I scarcely ever found a sound nut on the ground, all had been gnawed.

4. The next is the *puwha*, or common sow-thistle (*Sonchus oleraceus*, var., or two varieties, exclusive of the later introduced British one). This was only used fresh as a vegetable, and gathered daily, or twice a day, as required, and steamed with their other food in the earth-ovens. Only the tender young leaves and unexpanded flowering tops of the plant were used; and the succulent stems of these were sometimes roughly bruised and washed in running water to get rid of the bitter milky juice before cooking. This plant was largely eaten, especially with fresh fish in the spring and summer, and it was greatly liked. It is a very good and wholesome vegetable; often have I gathered it for my morning or evening meal. Though everywhere common, yet in some places, as in the woods and on the dry open plains in the interior, both myself and travelling party have not unfrequently, when hungry, sought for it in vain!

5. The roots of the *pohue*, the common convolvulus or bindweed (*Convolvulus sepium*), were also carefully dug up and cooked for food. These, however, were not greatly esteemed; partly, I am inclined to believe, from the trouble of digging their long thong-like roots, and the small quantity obtained for the amount of labour expended.

A great peculiarity here to be noticed, is, that the roots of this plant, said to be identically the same species as the British one, are here in New Zealand edible and wholesome; while in England and elsewhere they are highly purgative (a few grains being sufficient), and were formerly there used medicinally. [I early pointed this out to the late Sir W. Hooker.]

6. The fine frond-stems (*stipes*) and trunk of the *korau* or *mamaku*, the black tree-fern (*Cyathea medullaris*), were also baked and eaten, and were greatly liked. This excellent boiled sago-like substance was certainly one of their very best wild vegetable productions, so easily, too, obtained; but it could only be used occasionally from its comparative rarity, as the plant being slow of growth required several years to bring it to any size, and when [28] once cut died. The first European who discovered and named it, Dr. Forster, spoke very highly of it.

7. The blanched heart-shoot (*korito*) and bases of the youngest leaves of the *tiitree*, or *kouka*, or *whanake*, the cabbage-tree of the settlers (*Cordyline australis*), were also commonly eaten both raw and roasted in the embers or hot ashes; but more as a makeshift in travelling or fishing (eels), etc., than as a regular village article of food. Being common, and almost everywhere at hand, it was very useful at such

times of hunger,—as I, myself, have proved; its taste is slightly bitter, but not unpalatable.

The large tap-root of this plant was also dug up and split and cooked for food; it was very fibrous, yet contained a large amount of both saccharine and farinaceous substance. It took very long in cooking, and was chiefly resorted to in times of great scarcity of vegetable food. Upwards of 30 years ago, at a time of severe want of vegetable food here in Hawke's Bay, through long drought and failure of their crops, the roots of this tree were extensively used in every village,—the modern Maoris being greatly benefited through having iron pots in which to boil them. Another species of this genus, *tti-koraha* (*Cordyline pumilio*), a very much smaller plant of low growth with narrow grass-like leaves, had much more fleshy and saccharine roots; these were sought and dug up, hung in the wind and dried in small bunches, and eaten sometimes in their raw state. This plant was more commonly found at the north, growing in the open fern lands.

8. A very capital article of food was the blanched heart (*korito*) of the southern palm-tree, *nikau* (*Areca sapida*); but as a fine tree only afforded a single dish, and the obtaining of it always killed the plant, it was not very commonly used. It, however, is excellent eating, even in a raw state, juicy, succulent, and nutty, with an agreeable taste, and is very wholesome. It proved of very great service to me once when I had both lost my way and my companions too, in travelling in a new country, and was starving.

9. Another highly curious article of vegetable food was the *pungapunga*, the yellow pollen of the *raupo* flowers—the common bulrush, or cat's-reed mace (*Typha angustifolia*). This was collected in the summer season, when the plant is in full flower, in the wet swamps and sides of lagoons, streams, and lakes. I have been astonished at the large quantities of pollen then obtained. On one occasion, more than thirty years ago, I had several buckets full brought me by the present chief, Tareha, in his canoe, some of which I sent both raw and cooked to the Kew Museum. In appearance in its raw state it exactly resembles the ground yellow mustard of commerce, and when put up into bottles would be mistaken for it. It is obtained by gently beating it out of the dense flowering spikes. To use it as food it is mixed up with water into cakes and baked. It is sweetish and light, and [29] reminds one strongly of London gingerbread. Dr. Sir. J.D. Hooker informed me that when he was in India he found the natives of Scinde making a precisely similar use of it.

10. The large, hard, stony seeds of the plum-like drupe of the *tawa* tree (*Nesodaphne tawa*) were also used as food by the natives of the interior. This tree grows tall and large, and is very common throughout New Zealand in the low-lying forests. The fruit is something like a common English dark-coloured plum, and the flesh or pulp, though eatable in its raw state, is scarcely palatable, and not relished. The seed or kernel is peculiar, resembling that of the date of the shops, and equally hard. Long steaming them, however, in their Maori earth-ovens does wonders, and makes them to become serviceable to man. For this purpose they were formerly collected in quantities.

11. Another magnificent fern (*Marattia salicina*), *para* of the Maoris, was also an article of food, the large, scaly, bract-like pieces of its big tuberous root were used for this purpose. It inhabited damp, shady forests, and was very scarce. I never found it but once, in forests at the head of the

Waikare River, Bay of Islands, when I took off my hat to it! Of those plants I sent specimens to my good friend, the botanist, Allan Cunningham; also to Sir W. Hooker, at Kew,<sup>544</sup> I believe that it only inhabited the northern parts of this North Island, and formerly was much more plentiful there (from Maori report). No doubt its being so eagerly sought for food caused it to become scarce, just as with the black tree-fern (*Cyathea medullaris*). Its large arching fronds were ten to thirteen feet in length.

12. Another peculiar plant was the *karengo* (*Laminaria* sp.), a sea-weed, found growing in abundance on the flat clayey tidal rocks of the East Coast, and particularly about the East Cape;—a plant not readily forgotten by the traveller that way, should he have inadvertently trodden on it when wet, from its extreme slipperiness, and flat prostrate paper-like form of growth. This plant was collected and dried in the sun, and closely packed away in baskets for use. I have known baskets of it dried, to be taken inland to Taupo and elsewhere, on the Maoris' backs, as a suitable present, in exchange for the delicacies of the interior forests, like the *karako* kernels (*ante*). Sometimes in the summer season it was steamed in the earth-oven, and together with two other species of sea-algae, *rehia* and *rimurapa* (*Gigartina* and *Gracilaria* sp.), was mixed with the sweet juice of the *tutu*, as an excellent kind of blancmange-like summer food, eaten cold, and devoured with avidity. [30]

13. Several fungi were also eaten in the summer season, such as the two large terrestrial species called *pukurau* (*Lycoperdon fontanesei* and *L. giganteum*); the *harore* (*Agaricus adiposus*); the *hakekakeka* (*Hirneola auricula judae*); and the *paruwhatitiri* (*Ileodictyon cibarium*). Of this last, only the thick gelatinous volva, or outer shell, was eaten, and that when young and *before* it burst. For—*after* it had burst and thrown out its curious pileus of globe-shaped white network, covered with dark and fetid slime—its stench was unendurable; hence, no doubt, and from noticing how readily they sprang up after thunder showers, arose its Maori name—thunder excrement!<sup>545</sup> The two species of

544 WC: See London Journal of Botany, 1842, Vol. I., p. 303; and Tasmanian Journal of Science, Vol. II., p. 305.

545 WC: Rev. Mr. Berkeley has a curious error, in his work already quoted, respecting this plant (similar to that about the fern-root). He says,—“In New Zealand the gelatinous volva of *Ileodictyon* affords an execrable article of food, which would indeed be used nowhere except under great scarcity of better sustenance.” And again,—“The gelatinous volva of *Ileodictyon* is eaten in New Zealand, but it must be a very unpleasant kind of food; and the same part of *Lysurus mokusin* is eaten by the Chinese.”—Loc. cit., pp. 254 and 334. No doubt Mr Berkeley supposed that this fungus was used as an article of food after bursting. Just as if one was to write against the use of asparagus for food after it was in flower! A similar or worse error is also made, or enlarged, by Dr. Lindley, in writing on the mangrove tree (*Avicennia officinalis*, Lin.); he says,—“It exudes a kind of green aromatic resin, which furnishes a miserable food to the barbarous Natives of New Zealand, who call it *manawa*.”—Veg. Kingdom, p. 665. Dr. Hooker, in his Handbook of the New Zealand Flora, attributes this error to Forster, who—certainly in two of his botanical works (“Plant. Escul.” and “Prodromus”)—had named the New Zealand mangrove, *A. resinifera*; but, as Forster was never in the North Island of New Zealand, where alone the tree grows, he could not have even seen the living plant. Forster had obtained that information from Crozet (*Voyage de M. Marion*); and Crozet had jumped to that conclusion from seeing the Bay of Islands Maoris chewing the kauri resin (not to eat, but as a mere masticatory, an old practice of theirs), and from noticing the large lumps of that resin floating about and stranded on the sea-

*pukurau* grew commonly in the open fern and grass lands, and were often of large size, and when young are very good eating. One species, *L. giganteum*, is said to be identical with the well-known edible European species of that name. The *harore* and *hakekakeka* were found plentifully on trees, both living and dead, in the woods, but were not greatly esteemed; recourse would be made to them in times of want.

14. The thick, fleshy roots of the New Zealand lily, *rengarenga* (*Arthropodium cirratum*), were also formerly eaten, cooked in the earth-oven. This plant grows to a very large size in suitable soil, and when cultivated in gardens. From this circumstance, and from having not unfrequently noticed it about old deserted residences and cultivations, I am inclined to believe that it was also cultivated. [31]

15. The inner part of the white succulent roots (*koreirei*) of the *raupo* or bulrush (already noticed), was also largely eaten raw, especially by children in the summer; it is mild, cooling, and refreshing, and not unpleasant.

16. In times of great scarcity of vegetable food, the globular nut-like roots of the *riiriiwaka*, tall sedge (*Scirpus maritimus*), were collected and eaten,—that is, the kernel-like inner part. It was amusing to witness the half-wild pigs of the modern Maori in the summer season—before the arrival of the European settlers—when the littoral swamps were drying up, how they would go into them, and dig and crack and munch those roots, concealed in the sedges of the swamps; they were often detected by the sound of their cracking and munching!

17. Another fleshy root, and that a tolerably large one, of the Orchis family, often the size of a middling-sized *kumara* tuber, or of a stout, long-red radish root—the *perei* (*Gastrodia cunninghamii*)—was also eaten; but it was rather scarce, and only found in the dense forests.

18. Lastly, the leaves of several smaller plants were also used in their season as vegetables; as *raupeti* (*Solanum nigrum*); *toi* (*Barbara australis*); *tohetake* (*Taraxacum dens-leonis*); and the very young succulent and mucilaginous shoots of two ferns, *Asplenium bulbiferum* and *Asplenium lucidum*. But the use of these in modern times, or during the last 40–50 years, was commonly superseded by that of the extremely useful and favourite plant—the “Maori cabbage,” (*Brassica oleracea*), introduced by Cook (*nanii*, of the Maoris at the north; and *rearea* at the south), of which they carefully sowed the seeds. I have, however, often partaken of *Solanum nigrum*, boiled as greens, at the table of a settler.<sup>546</sup>

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mud among the mangroves,—and so error grows and is perpetuated!

546 WC: I mention this as being a similar instance to that I have given of *Convolvulus sepium* (ante); the *Solanum nigrum* of Europe being narcotic and poisonous. Lindley says of it,—“It is more active in its narcotic and dangerous symptoms than *Solanum dulcamara*,”—the English bittersweet, both also being British plants,—“a grain or two of the dried leaf has sometimes been given to promote various secretions, possibly by exciting a great and rather dangerous agitation in the viscera. It is a narcotic, and, according to Orfila, its extract possesses nearly the same power as lettuce opium.”— Vegetable Kingdom., p. 620. I had both those plants, with others, and their common edible uses here, as vegetables, in my mind, when I wrote what I did in the “Essay on Botany, North Island of New Zealand.”—“Trans. N.Z. Inst.,” Vol. I., p. 3 of Essay.

Before, however, that I close this subject, a few words on their summer fruits may not be out of place. Foremost here (the *karaka* having been already mentioned) is the *tutu* (*Coriaria ruscifolia*); the rich and wholesome juice of the berry-like petals of this plant, common everywhere, was in large request and plentifully expressed into big calabashes, which were kept in a cool place for immediate use. Next is the *tawhara*, which can scarcely be called a *fruit*, being the large thick white fleshy and sugary bracts of the [32] climbing *kiekie* plant (*Freylinetia banksii*); these were largely collected in the summer in big calabashes, being delicious eating when fresh;<sup>547</sup> curiously enough the real fruit of this plant (called *ureure*), which was also eaten, was only ripe in the winter season, thus being, as the Maoris say, the only New Zealand plant which yielded them its fruits twice in the year. The fruits of the larger timber trees, *totara* (*Podocarpus totara*), *kahika* or *kahikatea* (*Podocarpus dacyridooides*), *matai* (*Podocarpus spicata*), and *rimu* (*Dacrydium cupressinum*), were also gathered in baskets full, and greedily devoured; these, however, were only obtained through difficulty and danger, in climbing those high trees and getting at the fruit on the very extremities of their branches, which the adventurous climber broke off and threw down; in doing so not a few accidents yearly happened, some being sadly maimed for life. The purple perfumed berry of the large fuchsia shrub, *kotukutuku* or *konini* (*Fuchsia excorticata*), were abundant, easily obtained, and very nice when fully ripe, even to a European. So were the orange-coloured berries, though small, of the *rohutu* (*Myrtus pedunculata*); these the natives obtained by spreading their larger garments, or floor-mats, on the ground, and shaking the trees, when the fruit fell in showers; the berry is about the size of a red currant, seeds large and very hard. The large berry of the *poroporo* (*Solanum aviculare*), was also eaten; it is about the size of a small plum, and when fully ripe it is not unpleasant eating, before it is ripe it is very acrid. This fruit was commonly used by the early colonists in the neighbourhood of Wellington, in making jam. The *koropuku* (*Gaultheria antipoda*, var.  $\gamma$ ), a curious small white fruit (though large for the size of the plant), growing on a very low shrub only two to four inches high, on the high plains in the interior, is also good eating. And so is the pulp of the rich orange-coloured fruit of the *kawakawa* (*Piper excelsum*), when fully ripe, rejecting the numerous seeds.<sup>548</sup> The small fruits

547 WC: see Proverb 19, “Trans. N.Z. Inst.,” Vol.XII, p.117.

548 WC: I should here quote a passage from Dr. Seemann’s Botany of Fiji; where, in writing on an allied species of *Piper* (*P. methysticum*), he makes some strange remarks on the New Zealand plant, and on the Maoris themselves. (Like not a few others, before him and since,—hastily adopting, or jumping to, a conclusion—not yet warranted by any known soundly logical premises—to bolster-up a pet theory!) Dr. Seemann says:—“Drinking kawa being peculiar to all light-skinned Polynesian tribes, Dr. Thomson expresses surprise that the Maoris of New Zealand should have forgotten the art of extracting it, ‘seeing that the plant (*P. methysticum*, Forst.) grows abundantly in the country.’ But the *Piper* found wild in New Zealand is not, as Thomson supposes, the *Piper methysticum*, Forst., (the true kawa plant), but the *P. excelsum* of the same author. Hence it can form no surprise that a genuine Polynesian people should have forgotten the art alluded to during the long lapse of time intervening between their departure from Samoa (sic) and their discovery by Europeans. They have, however, preserved the name of kawa, which they have transferred to their indigenous pepper (!) (*kawakawa*), and also to a beverage (!!)(*kawa*) made of the fruits of the *Coriaria myrtifolia*, Linn.,—a plant by them termed *tupakihi*, *tutu*, or *puhou*. Kawakawa, according to

[33] of several species of *Coprosma* (*karamu*, *kakaramu*, *taupata*, *papauma*, *tatarahake*, etc., of the Maoris) were also eaten; so were the fruits of several species of *Rubus* (*tataramoa*), and of the *ngaio* (*Myoporum laetum*), especially by children. While the liquid honey-like fluid abundantly supplied in the perianths of the *korari*, or New Zealand flax (*Phormium* sp.), was commonly used by all, both old and young, and was very wholesome eating.

Lastly, and in conclusion, I would briefly observe, that this estimable trait in the character of the Maori,—of passionate attachment to cultivation, descended and remained with him down to modern times,—to times long after the foundation of the Colony. For many years, however, prior to that event, the chief harbours of New Zealand (North Island) were thronged with ships—whalers and others—which called in to get supplies, mainly of vegetables,—potatoes, *kumara* (both small and large, the latter newly introduced), pumpkins, onions, maize, melons, cabbages, etc.; these were all raised by Maoris, who often received but a very small return in barter, especially if sold by them to the intermediate men, the storekeepers and ships' husbands on shore. A writer on New Zealand in 1884 (who for some years previous had been a resident in the Bay of Islands) says,— “Vast numbers of whaling vessels touch at the various harbours on the eastern coast, for supplies of potatoes and pork and other fresh provision, the produce of the country. In the Bay of Islands there have been at anchor, at one time, as many as twenty-seven vessels, most of them upwards of three hundred tons burthen, all of which have been supplied, by the industry of the inhabitants, with a sufficient stock of fresh provisions for a long whaling cruise.” And a similar testimony I can also bear for the time (ten years) that I resided there. I have seen 400 seamen on shore at one time from those ships! and when the great and increasing number of the shore residents, including the several mission stations, the large number of their dependent natives at school, etc., and the sawyers in the neighbouring forests, are duly considered, the quantity of potatoes, etc., raised for all seems really astonishing! and all, too, done by manual labour, together with their bringing their produce many miles by land and by water—on their backs and in their canoes—to the market. And it must not be forgotten that the Maoris had now double labour in their cultivating,—in having to fence against the incursions of the pig, everywhere abounding; and, also, through their non-using of manure, as has been already shown. Such, indeed, was the strong, the passionate attachment of the young Maoris [34] of those days to the cultivation of the soil, that we were *obliged* to allow the young men residing with us,—whether as servants, boatmen, or scholars,—to return to their several homes for that purpose every year in the planting season.

And just so it was here in Hawke's Bay for several years; in 1845 the Maoris (south side) first sowed and reaped wheat (the seed of which I had obtained from Auckland); and in succeeding years they raised enough of wheat and maize (exclusive of potatoes and scraped New Zealand flax), to load annually several small vessels; and all the produce of *hand labour!* Truly the Maoris of to-day, with all their civilization and riches, may take for a proper motto FUIMUS!

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Colenso's statement in J.D. Hooker's Flora Novæ-Zealandiæ, signifies ‘piquant’” (Flora Vitiensis, p. 261).

#### APPENDIX A.

*A List of the different Varieties of small Kumara formerly cultivated by the Maoris:*—

1. Varieties in the northern districts, namely—Bay of Islands, Hokianga, and Kaitaia:—

(1.) White skin varieties, having white or whitish flesh—

\* *Toroamahoe.*

*Mapua.*

\* *Monenehu.*

*Waniwani.*

*Kawakawa.*

*Maramawhiti.*

*Pauaataha.*

*Puurata.*

*Kanawa.*

*Maomao.*

*Mengerangi*, with grooved sides.

*Torowhenua*, uniform small size, peculiar.

*Pane*, mealy dumpy sort.

*Toitoi.*

(2.) White skin varieties, having slightly reddish flesh—

*Pohutukawa.*

*Kauto.*

*Hitara*, a prized variety.

(3.) Red skin and flesh—

*Whakakumu.*

*Toikahikatea.*

*Koreherehe*, grooved sides, prized sort.

*Taurapunga*, a mealy sort.

\* *Parakaraka*. [35]

*Awangarua.*

*Panahi.*

(4.) Dark purple skin and flesh—

*Makururangi.*

*Kauutowhau.*

*Kengo.*

\* *Pokerekaahu*, very dark throughout.

\* *Anurangi.*

*Matakauri.*

*Poranga*, dark claret flesh.

*Kaikaka*, very dark throughout.

2. Varieties in Hawke's Bay and on the East Coast (exclusive of those, also cultivated by them, already entered in List No. 1, and marked with an \*):—

*Tutaetara.*

*Tokouu.*

*Kawakawatawhiti.*

*Kairorowhare.*

*Hawere.*

*Paihaukaka.*

*Ngakomoa.*

*Raumataki.*

*Tapautini.*

*Maori.*

*Pehu.*

*Kaawau.*

*Tutaanga.*

*Kurararangi.*

*Patea.*

*Kiokiorangi.*

I do not consider the foregoing lists as being anything like exhaustive (indeed I have the names of a few others from the north which I purposely keep back); many of them I

have both seen and eaten, 40 years ago and more. My two lists I have obtained from six sources, three north and three east coast, extending over 35 years, and I have been surprised at their great general uniformity. In all, the sort called *parakaraka* is said to be "the oldest variety"; the lists from the East Coast did not clearly specify the differences.

#### APPENDIX B.

"I suspected the cause," says Mr. Knight, "of the constant failure of the early potato to produce seeds, to be the preternaturally early formation of [36] the tuberous root, which draws off for its support that portion of the sap which in other varieties of the same species affords nutriment to the blossoms and seeds, and experiment soon satisfied me that my conjectures were perfectly well founded. I took several methods of placing the plants to grow in such a situation as enabled me readily to prevent the formation of the tuberous roots, but the following appeared the best. Having fixed strong stakes in the ground I raised the mould in a heap round the bases of them, and in contact with the stakes: on their south sides I planted the potatoes from which I wished to obtain seeds. When the young plants were about four inches high, they were secured to the stakes with shreds and nails, and the mould was then washed away by a strong current of water from the bases of their stems, so that the fibrous roots only of the plants entered into the soil. The fibrous roots of this plant are perfectly distinct organs from the runners which give existence, and subsequently convey nutriment, to the tuberous roots; and as the runners spring from the stems only of the plants, which are, in the mode of culture I have described, placed wholly out of the soil, the formation of tuberous roots is easily prevented; and whenever this is done numerous blossoms will soon appear, and almost every blossom will afford fruit and seed."

#### APPENDIX C.

*A List of the different Varieties of Taro formerly cultivated by the Maoris.*

1. The varieties grown and used in the North, namely—Bay of Islands Hokianga, and Kaitaia Districts.

The best kinds were the three following:

- \*1. *Pongo*,
- \*2. *Turitaka*. Varieties having a pleasing scent.
- 3. *Potango*, a very superior sort, greatly prized.

Those three were eaten as *popoa*—sacred food used by the priests, (*tohungas*) on the death of chiefs; and also on the *Iriiringa*—the ceremonially naming of a newly-born chief's child; pigeons were eaten with them as a relish.

4. *Awanga*, a very abundant grower and therefore prized.

\*5. *Wairuaarangi*, a sweet, grateful kind, having a flesh of a peculiar pink tinge.

6. *Ngongoro*, a very large and prized sort.

Those three were used for noble or welcome visitors; one of this last variety, *ngongoro*, was said to have been sufficient for a man, but if a very great eater he might be able to manage two, hence, perhaps, its name, *ngongoro*—wonderful! from *Onomatopaeia*, that being the name of the strong nasal sound usually emitted on expressing great astonishment at anything. [37]

- 7. *Mamaku*,
- 8. *Haukopa*. Good kinds, usually eaten at the *hahunga*—exhuming and scraping the bones of a chief.
- 9. *Tokotokohau*, a large kind used at feasts.

\*10. *Kinakina*, used by workmen when working together in large bodies.

2. The varieties formerly grown here at Hawke's Bay and on the East Coast, south of the East Cape, not included in the above list:—

- 11. *Paengaanga*.
- 12. *Kohorangi*.
- 13. *Patai*.
- 14. *Matatiti*.
- 15. *Takatakaapo*.
- 16. *Tautaumahei*.
- 17. *Koareare*, a white-fleshed sort.
- 18. *Kakatarahaere*, a dark-fleshed sort.
- 19. *Upokotiketike*.

Also Nos. 1, 2, 5, and 10, marked with a star.

Besides those they had here two others, which I have never seen; they were peculiar (if they really were *taros*, which, from their names, I doubt).

20. *Uhikoko* ("he taro noa, otira he pai ano"—a common *taro* of the usual kind, but a very good one).

21. *Uhiraurenga*.

Of this last it is said, "he taro tapu tenei, he atua, whanatu rawa te ringa ki te hopu kia taona hei kai, rere atu ana." = This was a sacred *taro* (or one used only for tabooed purposes); it was a demon (or something extraordinary), when the hand of the taker was stretched forth to lay hold of it, that it might be baked for food, lo! it suddenly removed away.

Several of those *taros* I have both seen and eaten.

#### APPENDIX D.

The best kinds of *aruhe*, or fern-root, at the north were known by the general names of *maahunga* = mealy, and *motuhanga* = brittle, easily snapping. Here, however, on the East Coast, the best kinds were called *kaitaa* = gentlemen's food, and *renga* = mealy.

The *motuhanga* was really a splendid sort. I have seen it, a fine-looking black-skinned smooth root, eight to ten lines in diameter, with scarcely any woody fibres, and these were small, like a very fine rush, lustrous, hollow, and white. It would snap readily, like good biscuit, before being prepared or beaten. [38]

Then the best was again separated, thus:—

- 1. *Kowhiti* = best selected; for the chiefs.
- 2. *Huirau* = a hundred together in company; for warriors. This was stored up in their hill-forts for sieges and fighting times.<sup>549</sup>
- 3. *Paka* = dried; for general feasts.
- 4. *Ngapehapeha* = rinds, skins; for common daily use.

There were also other names for the third best and inferior sorts, as *pakakohi* = dried and gathered scraps; *pitopito* = ends; and *pakupaku* = small in size (broken parts of the choicer kinds); *tuakau*, *pararaa*, etc., etc.—(See "Trans. N.Z. Inst.", Vol. XII., p. 122, *Proverb 55*.)

549 WC: This kind was what Cook, Crozet, and others of their early European visitors saw stored up largely in their forts and fighting places, which quantities excited their astonishment. Moreover, the Maoris would not sell them any.

**1880 Historical Incidents and Traditions  
of the Olden Times, pertaining to the  
Maoris of the North Island, (East  
Coast), New Zealand; highly  
illustrative of their national Character,  
and containing many peculiar, curious,  
and little-known Customs and  
Circumstances, and Matters firmly  
believed by them. Now, for the first  
time, faithfully translated from old  
Maori writings and recitals.**

*Transactions of the New Zealand Institute 13: 38-57.*

[Read before the Hawke's Bay Philosophical Institute,  
12th July, 1880.]

THESE Maori relations which I bring before you this evening, are selected from several other similar stories which I possess, and I have no doubt but that other parts and other tribes of this island have, or have had, many such; so, also, those other unhappy tribes who preceded them—and of whom not a vestige remains!

From the earliest traditional times this country seems to have been exposed to the rage and curse of desolating wars, which every now and then sprang up from very slight beginnings (as it appears now to us), and which were too often carried to fearful lengths. This sufficiently accounts for its great depopulation. Nearly all their wars seem to have been of that kind so pathetically and truly deplored by Lucan—"as leaving no cause for triumph." Nothing struck me more forcibly in travelling, (pretty extensively and always on foot, before the country became colonized and partly settled), than to find in all directions strong indications of a once heavy population, or a series (so to speak) of populations. And that those people [39] who once dwelt together must have done so in very large numbers, the remains of their extensive earth-works (mostly on hill-tops and ridges), accomplished, too, without tools or the use of iron, plainly attest.

In these narrations we shall find not a few highly characteristic traits of the New Zealander, some of which I have already mentioned, or alluded to, in former papers,<sup>550</sup> as *Shame*—at detection of a fault, not unfrequently ending in suicide: *Revenge*,—deep, long meditated, obtained at any cost, and patiently waited and toiled for; on account of an insult, or a curse, never forgotten or forgiven! *Cunning schemes*,—laid and often well and fully carried out: *Vengeance*,—for bloodshed, which (as with the ancient Hebrews) was generally undertaken by the next of kin, and terrible in its effects!<sup>551</sup> *Strong belief*,—in the efficacy of spells and charms, and in the mere recital of words

550 WC: Vide—"Trans. N.Z. Inst.", Vol. I., "Essay on the Maori Races," § 28 and 35; also Papers on the Maoris, Vols. XI., XII., ditto.

551 WC: Like the "Goël haddâm" of the Hebrews, the next of kin was bound to avenge the murder of a kinsman; and too often here, like in those old and bloody times of the Jews (e.g., Gen. XXXIV., 25, etc.; Joshua X., XI.; 2nd Samuel VIII., 2, and XII., 31), the Maoris carried their vengeance to a terrible length! Let those, however, who would freely censure the old Maori, fairly and honestly bear in mind what they may read pretty much of in the Old Testament.

exceedingly simple in themselves, and rarely ever possessing the merest germ of a prayer to, or invocation of, any higher power; and, also, the highly peculiar custom of *personification*,—or the personifying of things, animate and inanimate,—together with their giving proper names to every single thing they possessed or manufactured; which names were, sometimes, well chosen and expressive, and sometimes highly ridiculous; yet, at the same time, were not seldom the cause or source of future trouble to them.

I would also further observe, that it is only in relations of this kind, as given by intelligent old Maoris, that we may expect to find accounts of, or allusions to, many things,—as works, doings, habits, manners, customs, beliefs, etc.,—which have become quite obsolete and lost. Even the very meanings of the names of some are now scarcely known, save to the older men. Indeed, herein is a mine of ethnological wealth, if it could but be *expeditiously* worked, for in a very few years more there will be no remainders left! Even now, what is related by the *best* of the Maoris relating to the *olden* time will require *to be very cautiously received and examined, and that, too, by competent hands*.

Another thing which I may be allowed slightly to touch on here in passing, is, that these historical narrations will serve faithfully, though silently, to show to the settlers of today a portion of what the early [40] missionaries in this country had to contend with; which, while scarcely any perceptible traces of them are now left, were, at first and for a long time, immensely powerful obstacles.

#### 1. THE STORY OF THE MURDER BY RANGIWHAKAOMA.

THE principal place of residence (*pa*) of this chief, of Rangiwhakaoma, was at Rakaupuhi; there he dwelt. One day he went to the entrance porch of his *kumara* store, and there he sat down. Now the name of that store was Raumatirua. While he was there a certain lad, named Tawakeariki, the son of a chief named Te Aotata, went up also to that spot, when Rangiwhakaoma said to him, "O, sir, whither art thou going?" The boy replied, "Just here, to this place, to look at the *kumara* in thy store." On hearing this Rangiwhakaoma said to him, "Stay a bit; it is not so very good to look about here (in the *kumara* store). Far better is it, O thou! below in the unseen world (*reinga*), that the looking about may be both beautiful and pleasing." Then that boy went quickly below to the unseen world (*reinga*) to observe and look about at the steep cliff in Hawaiki. There he expressed his admiration at the beauty of the *kumara*;<sup>552</sup> and, while he was thus admiring, lo! the whole piled-up-

552 WC: This is difficult to express clearly in a mere translation, although to me the original is clear enough. I have given it just literally; it may mean, either that the lad was so carried away in thought at that saying of the chief; or, that he soon proved the truth of what had been said (I incline to the latter). What the chief said was no mere bombast, but the common belief of the Maoris. To an adult that remark would have been sufficient, meaning keep off. But an adult would scarcely have gone thither, at all events not without a special invitation, as those barns or stores were rigidly tabooed, and could only be entered by tabooed persons, and then only at proper set times. And the lad, it seems, did not take the significant hint, but afterwards went inside. The central stack of *kumara* in the store, as formerly piled, might very easily be made to fall bodily on a little boy below; their *kumara* was always stored away rather loosely, to allow of the dry air circulating throughout, their great enemy being mould, caused by damp.

stack of *kumara* (in that store) was made to fall suddenly down upon him, so that he was immediately killed. His friends, on finding that he was dead, sent off a messenger to Uawa, to his father, Te Aotata. On hearing the sad news Te Aotata exclaimed, "By whom was my son slain?" The messenger replied, "By Rangiwakaoma." The father, having mourned over his son, assembled a band of his followers. On their leaving to seek revenge the principal chief, Hauiti, called out to them, "O, friends, listen! If you should capture the daughter of Rangiwakaoma, let her be kept alive, to become my wife." So the armed party of Te Aotata went to Rakaupuhi, the place where Rangiwakaoma dwelt, invested the place, assaulted and took it, and killed the people, including Rangiwakaoma. A remnant, however, escaped; and of those they caught alive they slew some as food for themselves, saving alive three women—namely, [41] Rakaumanawahe, the daughter of Rangiwakaoma, and two others, young women of rank, named Rakaiparore and Hineparata. This business over the armed party returned to its own place—to Uawa; and Hauiti took Rakaumanawahe to wife. One day in the summer those two young captive women, Rakaiparore and Hineparata, were bathing as usual in the deep water, and there they amused themselves (as women do in bathing) with causing their armpits to make a great noise<sup>553</sup> while lashing the water with their arms. The noise was heard by some of the men at work, who cried out, "Those women are deeply affected!" and then the loud taunting song was raised respecting them, through which those two women felt greatly ashamed. So they both together arose and left that place, and travelled a very long distance by the sea-coast until they reached a place called Orerewa, where they stayed, and afterwards both took husbands there. In due course of time Rakaumanawahe, the wife of Hauiti, gave birth to two children; the first was named Karihimama, the second Ngatorotahatu. Being in want of seed *kumara*, Hauiti said to his wife, "Go to Ngatira to fetch some *kumara* for us." So she went thither, taking another woman (lady) named Tahipare for a companion. On those two women arriving at Pakaurangi, Ngatira's village, the people of the place rushed out and killed one of the women, Rakaumanawahe, but saved her companion; and, not content with killing Hauiti's wife, they cut her up and ate her. Then the woman that was saved returned to Hauiti, and related all that had taken place. On hearing this sad news the chief, Kahukuranui,<sup>554</sup> became exceedingly cast down, on account of the degrading outrage offered to his wife, and immediately began to assemble an armed band to go and take revenge. While this army was getting ready a woman came over from the people of Ngatira to see Kahukuranui, being incited thereto through her sympathy for him, and she showed him how Ngatira's place (*pa*) could well be taken by the army, saying, "By means of the crawfish the fort can be overcome," for Kahukuranui's army was not physically strong enough for that purpose. On hearing this, Kahukuranui commanded an immense taking of crawfish to be made, and they all went willingly about it. Crawfish were caught in great numbers and dried; they were brought from all the fishing stations on the rocky sea-coast—from Te

553 WC: This is done while swimming, by rising and uplifting both arms, and bringing them down suddenly together with the air in the hollow of the armpits to the surface of the water. When well done by practised persons, it makes a loud hollow sound, and may be heard a great way off.

554 WC: Kahukuranui was the son of Hauiti, and the husband of Tahipare, the woman that was saved.

Haha, from Taoparapara, from Te Ika-a-tauira, from Tatara, from Maitara, from Whangaiariki, from all the many creeks and seas the crawfish were [42] collected, and, when ready, were carried away for Ngatira.<sup>555</sup> Hence it was that Ngatira and his people afterwards suffered dreadfully in their fort when besieged through want of water, for the water of the place being outside of the village was soon in the possession of the besieging party, and the people of the fort could not get at it with their calabashes. But the friends and relatives of the foe living in that place took with them their heavy, thick flax-mat garments when they went down to see their relatives;<sup>556</sup> these they used instead of calabashes to carry up water to the besieged, soaking them in the water (although, after all, scarcely any water remained in the said garments), and when they returned to the fort they wrung the water out for the children and the women, while others desperately chewed and eagerly sucked the loose hanging flax-fringes of the wetted garments, just to moisten a little their parched throats. The water to drink was also the more required through their still eating the dried crawfish, being impelled thereto through hunger. For some time they managed miserably in this way; but at last, on trying it again, they found the armed party (who had become suspicious) watching the water, so that when the women and others went into it to wet their flax garments as before those watchers rushed in upon them, and they fled back to their fort with scarcely any water! Soon after this the final assault was made, and though the picked band of brave and fearless fighters, Koparakaitarewarewa and his friends, went boldly outside and withheld the besiegers, and that more than once, they were obliged to give way, being all faint and half-dead through want of water, for it was this alone that slew them. So Ngatira was killed, and Pakaurangi was taken. This battle was called "The death in the wet garments," or, "The death in the time of the wetted garments." The remnant who escaped of this people fled various ways, some went to Kaiora and dwelt there, building a fort (*pa*) for themselves; some fled further north; some haunted the neighbourhood of their [43] former homes, but away up on hills and mountains, and in cliffs, and in inaccessible sides of streams. Those who did make a stand and dwelt at Kaiora had a wretched life of it through constant dread. At last some of them fled south to Wairarapa, and even to Kaikoura (South Island), and thus were widely dispersed the refugees from Pakaurangi. This battle was known to our fathers by the name of "The death in the time of the wetted garments," and this conquest was

555 WC: The crawfish were preserved after this manner: they were taken alive, and in their shells were planted thickly in the bed of a running stream of fresh water, much like shingles are placed on the roof of a house; there they were kept down under water with stones placed on them. In a day or two they would be taken out, their shells slipped easily off, and the flesh hung up separately in the wind on light frame-work stages to dry. The flesh shrunk amazingly in the drying process, and when dried each one was very thin and light, all the legs, etc., having been packed on to the body of the fish in its damp state and there consolidated and compressed, were not now plain, so that each bore no resemblance to its original. When quite dry and hard they were put up in bundles and packed away in baskets, and kept in a dry store. They might well be called fish-cakes. They were greatly prized, especially by the Natives in the interior, to whom presents of them were sometimes sent, who gave potted forest birds in return.

556 WC: Their relations by marriage; a practice always allowed in their wars, though highly injurious to both sides, which they also well knew.

achieved by Kahukuranui. [This fight took place, according to several genealogical lists, thirteen generations back.—W.C.]

## 2. THE STORY OF THE CHIEF HAUTI AND HIS TWO ELDER BROTHERS.

THE chief Hingangaroa had three sons; the first was Taua, the second was Mahaki, and the third was Hauti; these all were grown up to manhood, and dwelt at Uawa. They all agreed to turn their attention to the making of large seine nets for themselves; those three chiefs were to have three nets, that is, one each; each chief having also his own immediate followers. Hauti named his net Whakapaupakihi (*lit.* Taker of all [fish] in shallow tidal waters, or, in the ebbing tide); he gave it this name because of its immense size.<sup>557</sup> One day they all cast their nets into the sea, and had a large catch of fish; but Hauti's net contained a great deal more than the others. Then his two elder brothers, with their followers, came and took away forcibly (*muru*) the prime fishes out of his net; and at every subsequent casting of his net his two elder brothers and their followers would come and take away by force his best fish out of his net. Then Hauti began to think within himself, Whatever shall I do to circumvent or overcome my elder brothers? Not perceiving any means of doing it, he visited Tauranga, and went far inland to Makihoi, to see Marukakoa, a priest, or cunning man, of note; and to him he put this question, "How [44] can the killing (*or* discomfiture) of the relation be effected?" And Marukakoa replied, "Shut close the eyes, and when thou openest them to see, (he is) killed, prostrate (on the ground): another plan (is by) fire." Then Marukakoa himself lit a fire in his talking-house—where these two were; and when it was kindled he placed some cabbage-tree<sup>558</sup> upon it; this tree in burning emits much smoke, which is also very smarting to the eyes. On seeing this, and smarting too from the smoke, Hauti called out, "O, Marukakoa, what is this for?" and Marukakoa replied, "This is the killing of the relation." Then Hauti returned to his own place and people. Soon after his return he began to build his fort, which was named Ko te poti o Hauti. He also said to his followers, "Be courageous, be brave and daring; do not consider the relationship of the elder brother or of the younger brother or of the father; let the eyes be firmly closed." Then he gave his orders, "Put the net into the canoe," which his people

557 WC: It may be useful to quote here what Cook says about their nets,—"We had plenty of fish, most of which, however, we purchased of the natives, for we could catch very little ourselves, either with net or line. When we showed the natives our seine, which is such as the King's ships are generally furnished with, they laughed at it, and in triumph produced their own, which was indeed of an enormous size, and made of a kind of grass [Phormium] which is very strong; it was five fathom deep, and by the room it took up could not be less than three or four hundred fathom long. Fishing seems indeed to be the chief business of life in this part of the country; we saw about all their towns a great number of nets, laid in heaps like haystacks, and covered with a thatch to keep them from the weather, and we scarcely entered a house where some of the people were not employed in making them." Cook's Voyages, Vol. II. (first voyage), p. 369—70. The very large nets, the heaps like haystacks, and the making in many houses, I have also seen, precisely as described by Cook. Curiously enough Cook had anchored and stayed some time at that very same place, Uawa, his Tolaga Bay. Cruise, and also Nicholas, 50 years after, relate the same of their nets.

558 WC: Cordyline australis.

immediately did. All being ready, he sent a man up to the top of the hill to watch the motions of the fish, and when he saw the shoal of fish had come in pretty close to the land, he raised the signal for the casting of the net. They cast it, and a great number of fishes were enclosed; then the elder brothers, with their followers, came forth again to take away, forcibly, the fish which had been caught from out of his net. On seeing this, Hauti retaliated by falling upon them unexpectedly, and they were well beaten, suffering severely! so that the fish marauders hastily retreated, letting drop from their hands the *kahawai* fish they had taken. Hence this fight was named, "The dropped *kahawai*" (*Arripis* *salar*). Some time, however, after this event, Hauti said to his people, "Come, let us cast again the net." And they did so. But before that the two ends of the big net were drawn on shore, the fish-robbing folks came down and turned again to the forcible taking of the fish out of the net! On this the chief Hauti suddenly called out, "Close up!" (His people knew well the meaning of that order!) So they brought together the ends and also the top of the net, thus enclosing, in one huge mass, both fish and men, and both died together. Hence the name of this destruction was, "The joined-top-of-the-net." His two brothers became greatly enraged at this, and said, "Verily, he has the best of it! We must fight." (*Koia, kei a Papa!*) Then they despatched a herald to their own people to assemble and come to them, to destroy their younger brother with his people.<sup>559</sup> On Hauti hearing of this, he said to his followers, by night, "Let us all leave and go and seek a good place, where we may dwell quietly, and live well." This he said, because his followers were but few in number (it is said, only 300); while those of [45] his elder brothers amounted to 2000 ("e rua mano"). So they deserted their place by night, and travelling steadily on they reached Whangaparaoa by nightfall. In the morning early he was surprised there by his two brothers and their people; then they fought, and several were killed on both sides, though by far the greater loss was that of the two elder brothers; Hauti himself was wounded in the leg with a spear. The name given to this battle was, "Werewere." After this, notwithstanding the many killed, they fought again; for whoever cares for loss of men in war when they are numerous? [The old world story!] By night Hauti and his people left that place also, and reached another spot where they bivouacked. On the following morning he was again pursued by his two brothers, and when he had nearly reached the village (*pa*) of the chief Tamatauira (that is, Te Rangitawehikura), he was again overtaken by his two brothers. Again he turned with his people to fight them, and they were again defeated; many fell in this battle, which was named "Kauneke." Then it was that his friends came forth to strengthen him, and they fought again, when his elder brothers were again beaten; this battle was named, "Ko te ngaerenuku, ko te ngaere-rangi." Now, however, Hauti, being reinforced by his friends, followed after his two brothers and overtook them in their retreat; they again fought another battle, and his two brothers were again defeated; this fight was named, "Ko te Rangihiwera, ko te Parawera-nui" And this was the last fight between them, for the two elder brothers were utterly routed. Afterwards, their bitter wrath and anger being over, they ceased fighting, and dwelt peaceably; but their descendants, in aftertimes, fought again,—as shall be now related.

559 WC: Very likely through being sons of their one father by different mothers.

### 3. THE STORY OF THE DREADFUL FALLING-OUT BETWEEN THE CHILDREN OF TWO OF THOSE BROTHERS.

TAUA, the eldest brother, had a son named Apanui; and Kahukuranui was the son of Hauiti. Now the very beginning of the deadly feud between their sons arose from Apanui's calling to Kahukuranui after the manner of calling to a dog;<sup>560</sup> and the inciting cause of his doing so was the whiteness of the hair of the head of Kahukuranui. However, though greatly displeased, Kahukuranui kept his deadly anger in his own bosom, brooding over the insult, and scheming how he should be amply revenged on Apanui. At last he hit upon a plan; he Kahukuranui, determined to give his son as a husband for the daughter of Apanui, and when the two fathers had quite agreed, Kahukuranui proceeded to build a fine house for the occasion, which was also named "Whakarei"—beautiful, or highly ornamented. [46] The house being finished, Apanui was formally informed of it, and the day was also fixed for him to bring his daughter, whose name was Rongomaihuatahi, to become the wife of Kapi, the son of Kahukuranui. Apanui, therefore, came with his daughter and people; and they all entered into the new large house, which had been built for the occasion. Then Kahukuranui stirred up his people to bake plenty of food, and give a grand feast of good things prepared—of eels, and cod-fish (*hapuku*), and *taro*; and so they feasted that day. On the morning after, the people of that place baked their morning's food for their visitors, namely, pieces of wood, bits of supplejacks, flowers and flowering stems of the New Zealand flax, and stones, and earth,—all kinds of rubbish!<sup>561</sup> and then, after having placed their dressed morning's meal properly before them in baskets, they suddenly fell upon Apanui and his people and killed them all. Hence that district of Uawa was taken from the elder son and became the land of the descendants of the younger son Hauiti.

[According to several genealogical lists which I have by me, and have examined and compared, this affair took place 12 generations back.—W.C.]

### 4. THE TALE OF THE GREAT LADY RUATAUPARE.

HERE begins the story of Ruataupare. She was a woman of rank, and was the wife of Tuwhakairiora. In course of time she bore him six children, of whom four were girls and two were boys; and these were their names: the first, Mariu; the second, Te Aotiraroa; the third, Tukakahumai; the fourth, Te Atakura; the fifth, Tuterangikawhiu; and the sixth, Wehiwehi.<sup>562</sup> At the birth of this last, of Wehiwehi, the mother, Ruataupare, received serious internal injury,<sup>563</sup> so that she dwelt apart in the sickhouse, on account of her severe pains. Some time after the birth of this last child her husband thought that she was getting well; but no, she continued very ill. On a certain day the husband went to the house where she was to see the mother of his children and to enquire after her, when, after some talk, she said to him,

560 WC: "Moimoi"—a common term among the old Maoris for calling to a dog; but a great insult if applied to a man.

561 WC: This was done to insult first before killing (having got them completely in their power), and so to make death doubly bitter. In all such matters the New Zealanders excelled!

562 WC: Lit., Fearing; Apprehension. Named, no doubt, like Ichabod and Benoni, of the Hebrews, from the circumstances attending his birth.

563 WC: Vagina lacera.

"O, sir, listen to me. Wilt thou not be willing to go and fetch the daughter of Te Aomania, to become a wife for thee?" The husband replied to her, "O, mother! O, mother! and what of her own husband?" The wife rejoined, "O, my lord, thou must also be saying that thou art a great chief." On this he assented to the talk of his wife, that he should go thither [47] for that purpose, so he and his friends—a large party—went together. On arriving at the forest in the way they made a nice easy carriage for the woman, to carry her in on their shoulders. This they took along with them; and when at last they got near to the village to which they were going they left the shoulder-carriage there, and proceeded to the residence of the woman and her husband, whose name was Tuhauanu. On seeing the party of welcome strangers coming the man and his wife loudly welcomed them to their village with the common national cry of, "Come hither! come hither!" So the travelling party entered the big house and sat down, and all wept together through joy, which over they performed their usual nasal salutations. The woman then busied herself in preparing food for the strangers, and, when it was cooked, they ate. The repast over they rose to return to their own place, and the woman also went out in the usual way to give them the last parting words, "Go, go in peace," the travelling party replying, "Dwell, dwell in peace in thy own home." But when they were pretty near to the shoulder-carriage they caught up the woman and placed her in it to carry her off. Then they called loudly to her husband, "Thy wife is gone, being taken forcibly away." On hearing this he took up his own nice dog's-hair mat garment and went after the woman, crying out, "Go along, but go gently." He pursued and overtook the woman, and they wept and mourned together. When that was over he took his nice garment and spread it over her. Behold here two exceedingly excellent things performed by that man, Tuhauanu:—his yielding up his wife, and also his giving her his own choice chief's garment! The woman's name was Te Ihikooterangi, and she became the wife of Tuwhakairiora. She bore to him seven children, and these are their names: Te Aowehea, Mariuterangi, Te Rakao, Te Rangitaupopoki, Tuhorouta, Tinatoka, and Kirianu. Of all that chief's family these following are the names of those who were highly spoken of, and became the common boast—namely, of the first wife, Tuterangikawhiu and Wehiwehi; of the second wife, Te Aowehea, Tuhorouta, and Tinatoka,—these being continually called and spoken of approvingly, day after day, as the noble offspring of Tuwhakairiora. Hence, too, the first wife, Ruataupare, became greatly displeased, and was filled with shame on hearing her children always spoken of as those of her husband; and bearing only his name, while her own name was never once uplifted, but utterly disregarded. So she commanded a canoe to be got ready, and she was paddled to Tokomaru, the place of her own tribe. Arriving there she was ridiculed and mocked by all the people, on account of her hurt (for which she also underwent severe surgical operation). All this made her very wretched, and she wept over her unhappy situation. Then she said to her brother, "Wilt thou not go to see our grandchild, that he may come hither to visit us?" So her brother went to [48] him—to his place; and, after some time spent with him, Te Rangitaikiwaho, he came to Tokomaru to see his grandparents. The usual hearty welcomes and salutations over the old lady related to her grandson her situation. On hearing this he remained there, and commanded a fine large house to be erected, which was done, and when it was finished it was named "Te Koherearuhe." This done the summoning herald was formally sent to Waiapu, to Awatere, and to Wharekahika,

to all the tribes, to the chief Kauwakatuakina, to the descendants of Hinerupe, to the offspring of Tuwhakairiora, and to the tribe Ngatiporou, to assemble themselves and to come and fight with all the various peoples who were dwelling upon the lands belonging to her—to the great lady Ruataupare. They accordingly came, and then the war began, which lasted a long time. The first battle was called "Te Koherearuhe;" the second, "Te Upokoparupuwha;" the third, "Taitimuroa;" the fourth, "Taiparipari;" and the fifth, "Waikoropupu." Those people living thereabouts were all killed, and this exterminating war was brought about by Ruataupare, and thus her own lands, which had descended to her from ancient times, were cleared of them, and the name of Ruataupare was now loudly proclaimed and feared throughout the whole district of Tokomaru. Hence her name rose very high, also those of her female children, who came to dwell with her on their old ancestral estates.

[According to their genealogies these circumstances happened ten generations back.—W.C.]

## 5. A STORY OF THE OLDEN TIME.

### THE FIGHTING BETWEEN TUERE AND TANGIHAERE (OF THE ONE SIDE) AGAINST TE AWARIKI.

A CHIEF of old, whose name was Te Awariki, began this quarrel. This first fight is known to us in oral Maori history by the name of "The Bird, the flying Kite." On a certain fine day the chiefs of that village were all flying their kites, when the sons of Tuere and of Tangihaere were cursed by Te Awariki. He cursed them because the lines of their kites went above and over that of his own, which he was also flying. At this Tuere called out to his sons, saying, "Reply to him, that yonder is thy leg!"<sup>564</sup> So they all became very angry; ending in Te Awariki killing some of them. Not ceasing even then, he again arose in wrath with his followers against them, when they fought desperately, and seized and killed him. The distinguishing name by which this second battle between them is known is "Te Uirarapa" (*lit.* the lightning-flash). In that fight the people of Te Awariki [49] suffered greatly. Tuere, however, died at Te Waitotara, his own place, and was buried in a small wood called Kaniawhea. His sons and people continued to dwell for some time at that place; and by-and-by, at the proper time, they exhumed the body of their dead father Tuere, and manufactured his bones into fishing-hooks; and when all was done they carried them out to sea, and fished, and caught a large quantity of fine fish; then they paddled back to the shore, but on reaching it they did not take a single thing out of their canoe, leaving therein the fish, the hooks and lines, the paddles, and the balers,—all, everything; landing stark naked, and so going to their residence. Now all this was not of themselves, not of their own devising; for their dead father had planned all this, and bound them by his last words,—the performance only at this time being theirs; and thus they fulfilled his commands. They shoved off the canoe, and sent it adrift to go whither it would, being pretty sure that it would soon reach some other inhabited village on the coast, where the people would seize and eat the fish which was in the canoe, that by their so doing they might all die,—through the powerful malevolent influence of the bones of Tuere.<sup>565</sup> And so, at last, the wished-for slaughter

<sup>564</sup> WC: Probably meaning the kite, or its string; this, of course, would be another bitter curse.

<sup>565</sup> WC: The words are, "Kei nga iwi o Tuere te mana te atua."

was made, and the battle was gained by Tuere and his sons. And they (the sons) having done all this, left those parts, where they had long lived, migrating northwards to Maketu and Tauranga; where some of their descendants are to this day,—the offspring of Te Rangihouwhiri.

### Two Tales, both historical and true, showing the Overwhelming Power of Shame.

#### 6. THE STORY OF PUKOROAUahi, HIS SISTER, AND HIS BROTHER-IN-LAW.

IN the olden time there was a chief named Taranuiomatenga; his wife's name was Puhaureroa, and her brother was called Pukoroauahi. These three lived together at one place. The wife's brother was very skilful at snaring birds for them to eat, which he continually did, while his sister and her husband remained quietly at home. The husband took good care daily to devour the choice fat birds, leaving for his brother-in-law the less prized and lean ones,—such as hawks and owls, parrots and crows;<sup>566</sup> these, too, the young man sat apart to eat by the smouldering brands of the cooking-fires, where his eyes were made sore with the smoke; nevertheless his sister very often managed, when cooking, to hide a nice tit-bit for her brother. One day the brother went to his usual occupation in the woods; on this day to catch, by imitation of their cries, small singing birds—as *kotihes*<sup>567</sup> and [50] *koparas*<sup>568</sup> and *kookoos*.<sup>569</sup> While he was thus engaged he saw a bird, a pigeon (*kereru*) drinking water; then he went and got some New Zealand flax leaves, and made snares, and laid them cunningly, and soon caught a large number of pigeons, insomuch that he had them in heaps! He then returned to their place of abode, and told his sister to get proper baskets woven to bring home the spoils; saying that he had caught a great number of fine birds. On hearing this his sister was delighted, and when the proper baskets were finished, they went together to the place to gather up the birds. On arriving at the spot, there were the dead birds lying in heaps, looking so nice and tempting, that his sister was again delighted, and danced for joy, singing in her dance this new song,—"Even so, hanging out is thy tongue; snared securely upon his very perch, set for killing! Good, good, very good!" They turned to and collected all the birds which had been killed, and which lay in heaps before her, until they had filled 170 baskets with them. These were all caught by that one stream, and the name of that stream was Pouturu. And their death was cunningly effected thus: the food of the pigeon is the red *toromiro*<sup>570</sup> drupe, and there, just above the water, on a cliffy spot, were plenty of red pebbles; now the birds thought that those red pebbles were *toromiro* fruits, and so they came together at that spot in great numbers to eat those red pebbles, and when their throats got subsequently dry, through swallowing so many of those pebbles, they rushed to drink and were caught in the snares set by Pukoroauahi. (The names of that peculiar kind of snare are *parekauae*, and also *te whakoau*.) Having gathered up their birds they proceeded to carry them off on their backs to their residence, and worked hard all that day until evening; at

<sup>566</sup> WC: *Callæas cinerea*.

<sup>567</sup> WC: *Pogonornis cincta*.

<sup>568</sup> WC: *Anthornis melanura*.

<sup>569</sup> WC: *Prosthemadera novæ-seelandiæ*.

<sup>570</sup> WC: *Podocarpus ferruginea*.

which time the husband, returning from the woods to his home, saw the big pile of baskets of birds. Immediately he began to be angry with his wife, deeming those birds had been stolen, or surreptitiously killed, by his brother-in-law. At length his wife said to her husband, "Now, if thou wilt not believe me, come along and let us go together, and see the place where they were snared." So, in the early morning, they went thither together, and reached the water, and there he saw the red pebbles, and the snares, and all the rest of it. Then he knew well that they were not stolen birds from any preserves, and he became overwhelmed with shame. They went back to their home, and the young man said to his sister, "Kindle a separate (*tapu*=tabooed) fire to roast the birds for my brother-in-law; also, another common cooking fire to roast some for thyself." So she did so, she roasted the birds for her husband, and when [51] they were fully done she carried them to the place, outside of the house, where her husband was, that he might eat them; and entering she said to him, "O, Sir, arise and sit up; here are the choice birds nicely cooked; rise, and sit up." But he never moved. When she returned to the side of the fires, she said to her brother, "O, dear Pukoro, he never arose nor moved at all; he must be sleeping soundly." Now his manner of acting towards her was mostly in an unkind, rough way. Then the sister said to her brother, "Let us two eat our meal." The brother replied, "Let the preparatory ceremony be first performed." And these were the words of that ceremony:—"The ceremonial performance of Taranuiomatenga, the ceremonial performance of Pukorauahi, the ceremonial performance of Puhauroa, the ceremonial performance is fully done, the ceremonial performance is excellent (or approved); excellent (is the) food first ceremonially prepared, excellent the birds first ceremonially prepared."<sup>571</sup> This being fully done they took their meal, and when they had finished, the woman went again to see how it was with her husband; and, finding him in the same position, she cried out to him, "O, Sir, arise, and sit up." Then she looked more closely, and saw blood running down on his bed-mat! At this she went up to him to arouse him, and on pulling down the coverings (his loose garments), lo! he was quite dead, having been some time so. She left him in haste, and went out and called to her brother, "Alas! O, Pukoro, the evil thing is dead!" "Of what did he die?" replied the brother. "Of strangulation," she rejoined; "the troublesome grumbling creature is quite dead." Then they both took up fire, and set fire to the house in which the body was; and they heard the bursting of his belly in the flames. After this they proceeded to roast and pot in their own fat their birds, filling no less than 70 big calabashes with them. Thenceforth that young man took his sister to be his wife, and in course of time their child was born, and it was named Taporariroi.

[I should here remark, that although only two or three persons are here spoken of by name—as, also, in most of these stories—there were many others concerned; for, according to New Zealand custom, the slaves and inferior working-men were never mentioned.—W.C.]

571 WC: This ceremonial was always performed over "first fruits," of birds (as here), of kumara, etc.; and, like most other of their semi-religious ceremonies, was very simple. Insomuch that the principal noun used, being neither a prayer nor a thanksgiving,—I could only translate thus.

## 7. THE STORY OF A THIEF, AND OF HIS SAD END.

THE thief's name was Hotungakau; he went by night to the *taro* (*Caladium esculentum*) plantation of Tamateatitaka, and stole some *taros*; he baked [52] them and ate them all up that same night, and so, having fully satiated his appetite, he went to his house to sleep. In the morning the man to whom belonged the *taro* plantation went thither, and lo! he saw what had been done by a thief, so he said to his friend, "My good fellow, our *taro* is being stolen by some thief and will soon be all consumed, I must go to-night and keep watch." So when it was evening he went thither, and sat down concealed. It was not very long after when the same thief returned, and was busy uprooting the *taro*; on this the man in ambush let fly his spear, which struck the thief in his side breast; he feeling the pain from the wound ran off and escaped to his own house. On reaching it he bound his girdle tightly around the wound and lay down to sleep, the pain being excessive and the blood though confined flowing inwardly. By-and-by the man who had thrown the spear went to the house of the wounded man. Arriving there he found the fire had gone out, so he called out, "Oh dear! kindle the fire, make it to blaze, that it may be light." So the fire was kindled and it soon burnt well; and Hotungakau was awaked out of his sleep and sat up. Then the man who had thrown the spear related his story, ending with saying to Hotungakau, "It seems to me that thou art the very man who was wounded by me with my spear?" On which Hotungakau replied, "It was not me, for here have I been sleeping ever since the setting-in of the evening." (Although at this very time he was suffering dreadful internal pain.) The spear-thrower rejoined, "The appearance of that man was exactly similar to thine." Hotungakau retorted, "I tell thee it was not me: thou art indeed beginning an evil altercation with me." On hearing this the visitor returned to his own place; but Hotungakau died just at daylight. His sudden and violent and shameful death was greatly lamented by the people of the village. His father, Rongomaikohina, being completely overwhelmed with shame at the doings of his son, came quietly, and wrapping the body in a garment, put it into his canoe and paddled off. Before, however, he went away, he laid a heavy and deadly spell upon the place. He paddled far away, even unto Waikawa, here he was pursued overland by some of the people he had left behind, because so many had died through his powerful spell, by which also the death of his son was fully avenged. At last a herald came to him, to Rongomaikohina, saying, "There are scarcely any people left alive owing to thy deadly spell, whatever shall we do that the remainder may be spared?" To which Rongomaikohina replied, "Kindle ceremonially a fresh fire by friction with the rubbing-sticks, letting a woman tread on the lowermost stick (to keep it steady), through that the power of my man-destroying spell shall be dissolved." Rongomaikohina never afterwards returned to his former place of residence. [53]

## 8. THE STORY OF A BRAVE BOY, NAMED TAUTINIAWHITIA.

Once there was a chief, named Porouanoano, whose wife was called Hurumaangangi. They dwelt together for some time; the woman becoming pregnant hungered after a bird, and said to her husband, "I am very desirous of having a bird to eat." On hearing this he took up his bird-spear and went away to the forest; but he was unsuccessful in spearing any of the birds commonly eaten; notwithstanding, he brought back with him two living birds, one was a *huia*

(*Heteralocha gouldi*), and one was a *kotuku* (*Ardea flavirostris*); these, however, the woman would not eat, but kept as pets. After some time the man went away to his own (other) place of residence, while the woman remained. By-and-by, at the proper moon, she was delivered of a child, a boy, whom she fed and nourished and brought up. When he became a big boy he played at the sailing of canoes, at the whipping of tops, at the running of races on the sandy beach, and at the catching of small birds, with the other boys of the place. Then those other boys, who had fathers, would say,—“Those (doings, actions) of the fatherless brat are the only ones which go ahead!” On hearing this, Tautiniawhitia was swallowed up with shame, through his having no father; and he went crying and complaining to his mother, saying, “O mother dear, mother dear, wherever is my father?” She replied, “Thy father is not here, he is a long way off, at a very great distance; look towards the sun-rising, there away in that direction is thy father.” Then the boy went into the forest, and sought about, and brought back with him a seed-pod of the *rewarewa* tree (*Knightia excelsa*), this he took to the water and tried it, and found that it remained upright very well, and did not upset. Then he returned to their dwelling place to his mother, and said, “My dear mother, I am going to the residence of my father;” saying also to her, “on no account will I remain here in this place, I am so greatly overwhelmed with shame.” The mother said to him, “My dear child, at all events stay awhile until some food is cooked (and prepared to take with you), that you may be strong and able to endure for your journey.” He said unto her, “Indeed I will not eat; ‘a wooden spear-thrust can be parried, but a spoken spear-thrust cannot be warded off.’”<sup>572</sup> And so saying, he went his way to his canoe (made like) a pod of the *rewarewa* tree;<sup>573</sup> this he dragged into the water, and entering on board of his canoe paddled away. The mother cried affectionately after him, and he also cried back lovingly to his mother; he gave her his last words (to be remembered), and she did the [54] same to him. He went away out on the sea; then his mother chaunted the following charm—

From whom (is this) canoe?  
From whom (is this) canoe?  
From me, mine;  
From Urumaangangi,<sup>574</sup>  
From Taramaangangi.  
The cunning snares of Rei<sup>575</sup>  
(Are) as nothing at all!  
The canoe glides fleetly.  
Let the scowling winds coming hither<sup>576</sup>  
Be all stayed.  
Pass through space;

572 WC: See “Trans. N.Z. Inst.,” Vol. XIL., p. 123; proverbs 58, 59.

573 WC: Ka tae kei tonā waka hua rewarewa”:—probably the meaning is,—after the model of; made like, in form and shape.

574 WC: Observe the change of her name by dropping the h (poetical usage), of which there is more in the way of elision in this chaunt, showing, though we cannot perceive it, that the retention of the letter h, even in a proper name, was offensive to the nice discriminating ear and cadenced rhythm of the Maori. Bearing in mind the literal meaning of the woman’s name, White-and-thinlocks (or hair), these two lines—four and five—may well and literally mean from (her possessing) white and thin locks above; from (her possessing) white and thin locks below.

575 WC: A name of one of the malevolent superhuman ones of old.

576 WC: Those raised by adverse malevolent beings.

Pass through weather;  
Pass through billows:  
Lo! the earth glides by!  
Sail on to the nice landing;  
Now beached nicely—so!  
A canoe lightly passing over waves;  
The doing—away, there,  
(I am) beholding here with satisfaction.

Onwards the lad sped in his canoe, away, away, until at last he reached the very place where his father dwelt. Jumping ashore he dragged up his canoe, and hid it under the gravel of the beach. Then it was that the young folks of the village came running down to where he was, each exclaiming, “My slave! My slave!” and so he was seized and led up to the village, each boy and girl, and also each one of the adults, claiming him with much clamour and gestures. In the end, however, he became the property of a very small boy (who also was the son of Tautini’s father), who ran off with great glee to his father, shouting as he went, “O, sir, behold! Here is my new slave!” The father was greatly pleased at the good luck of his little son, and said to him, “Take him away to the little bush (or wood) to dwell.” One day, soon after this, the boys of the place went as usual to their play, some for the catching of small birds, some to the sailing of little canoes, and others to the many various games and sports of children. Tautini, however, went away into the forest, whence he brought back two birds exactly similar to those very two which he was made to hunger after when in the womb of [55] his mother. Then he said to the *huia*, “This is the cry for thee to utter, ‘The fire does not burn brightly; dark, dark, darkness prevails;’” and to the *kotuku* he also said, “This is thy cry, ‘The fire does not blaze; it is very dark all around.’” And thus the lad taught those two birds in the little bush where he dwelt. On a certain night when it was dark the lad went to the place where the big house of the chief was, to reconnoitre, and when he got there he found all the inmates were fast asleep and snoring loudly. Then he returned to the little bush, and, taking his two birds, carried them off to the big house. Arriving there in the porch he opened the closed door, sliding it back carefully. Then he entered the house, and took inside also his birds and set them down, placing their supplejack cages among the ashes of the fireplace. Suddenly the *huia* cried out, “The fire does not burn; dark, dark, darkness prevails;” and then the *kotuku* cried, “(There is) no blazing of this fire; smouldering, dark!” The sleepers were all now well aroused at those shrill cries and human words, and, sitting up, looked on with feelings of wonder and admiration, which they expressed. Then it was that Tautini’s father arose and stood, and, after observing closely for some time, exclaimed, “Verily, this lad is my own son, for those were the very birds which his mother longed for!” and, embracing his son, he wept over him rejoicing; and when it was daylight he took him away to the water, and there performed the usual and proper lustration and ceremonial service fitting for a chief’s son.

[Highly curious, as showing, among other things, the general vulgar European belief in the powers of the moral affections of the mother over her unborn offspring, extending to New Zealand.—W.C.]

### 9. A STORY OF OLD, OF A CERTAIN DROWNED BOY, WHOSE SPIRIT RETURNED TO TROUBLE THE LIVING.

THIS lad went with the water-calabash to fetch water to drink, being sent by his parents. He went, he got to the place where the water was, and on his pressing down his big light calabash under the water in the deep pool to fill it, it slipped suddenly away out of his hands. He then (as it was supposed), went into the water after his calabash, which was being carried away floating before him, and in doing so he sunk, and his belly was filled with water. After some time his parents went to look for him, but though they found the calabash floating they did not readily find him, because all over the surface of that water was overspread with spiders' webs; at last, however, they found the body and dragged it to the shore, and carried it to their village and mourned over it, and when the usual funeral lamentations were over they buried it in the earth. Then the spirit (*wairua*) of that boy appeared here in this habitable sphere, bewildering the living, and (it) dwelt [56] in Ihurahirahi to be a medium for it, who came to Tokomaru that is now, his principal place of residence being at Orangikupa, and there he dwelt. That village (*pa*) was on a high steep cliff, from which he went right off into the sea, and thus it came to pass; the poor bewildered one was walking, when the evil demon (*atua*) said to him: "It is all solid land there below, that he would not get bogged<sup>577</sup> in that water." The people of the place were on the look out and saw him walk right away from the top of the cliff, when he was lost to their eyes. On his sinking down, however, he was at the depths of the sea following his great chief (or leader),<sup>578</sup> near the mouth of the codfish (*hapuku*) who was being snapped at continually by the *hapuku*, so he followed his great chief; there he saw the multitude of fishes, food for man, scuttling about in all directions. His big chief was very courageous, and so was he through him, and he at last re-appeared above on the surface of the sea. Then he looked about, fastening his eyes on the land, its mountains, and hills, and cliffs, and he knew that shore and that land, and at length reached the strand at a place called Te Poroporo. There he told what he had seen in the sea to the people of that place, who were all highly delighted at his relation to them. In the morning they embarked in their fishing canoes, and paddled away out to sea to the spot rich in fishes which had been described to them, which they also found by its bearing signs on the land. There they fished with hook and line, and soon filled their canoes with fish. They named that rock "Kapuarangi." Their fishing over they paddled back to the shore, landing at Te Poroporo. The chief, Te Haratau, who lived near by, hearing of this, went also out to sea, to that very rock, to Kapuarangi, but he took with him to sea his weapons for fighting. The other chief, Ruatona, being informed of this, went also out to sea in his canoes, taking also with him his fighting weapons, to show his anger against Te Haratau. On Te Haratau looking up from his fishing towards the land, he

saw the canoes of Ruatona paddling out towards him, so he left off fishing and came to meet him. They met full drive! They fought at sea, and then they all paddled to shore. On landing they recommenced their warfare, and behold! Te Haratau was killed by Ruatona. Then it was that Ruatona's friends and helpers said, "Let the body be [57] buried." When Ruatona replied, "What, wilfully throw away the bit of (food obtained by extra exertion in) the scarce summer season?" And so that hand-to-hand fight ended in favour of Ruatona, who kept possession of Kapuarangi.

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### 1880 Contributions towards a better Knowledge of the Maori Race (continued.<sup>579</sup>).

*Transactions of the New Zealand Institute 13: 57-84.*

[Read before the Hawke's Bay Philosophical Institute, 8th November, 1880.]

—“For I, too, agree with Solon, that ‘I would fain grow old learning many things.’” —PLATO: *Laches*.

### ON THE IDEALITY OF THE ANCIENT NEW ZEALANDER.

#### PART III.—ON THEIR POETICAL GENIUS.

IT may truly be said that with the New Zealander poetry is, or was, part of their daily life. Whatever differences in taste may have existed among the various ancient tribes (*iwi*) composing the Maori people, in this matter they were pre-eminently as one,—all used it, all were moved by it, all enjoyed it. Indeed, I have very good reasons for believing that poetry—in one shape or other—was much more commonly used than even their proverbs were,—which formed the subject of my last paper read before you under this head. Is it not true, that under much of poetry, as well as of proverbs, there lies a philosophy? With nursery ditties and jingles they strove to amuse and quiet their young children, and with longer legendary and historical rhythmical recitals the old informed their youth, and dissipated the *ennui* of wet days and long nights. With smart songs of encouragement, sung alternately and in full chorus, they eased the heavy labour of their most laborious works,—such as dragging the hulls of their large canoes from the forests—often over many miles of the roughest country, without any road—to the sea, and also the large totara timber for their chiefs' houses; and often whole trunks of trees to form the outer wall of fortification around their town (*pa*). They paddled their war-canoes to suitable inspiring songs, which were regularly chaunted by their chiefs, or fit men,<sup>580</sup> often two, if not three, in each large canoe, to which song the paddlers kept time, both in paddling and in occasionally slapping the blades [58] of their paddles against the sides of the canoe, accompanying

577 WC: "Bogged" = powharuwharu,—This term, which is commonly and properly used with reference to swamps and deep muddy places, seems strangely out of place here. I never heard, never met with it so used before, especially with reference to the deep sea—clear water. I have a suspicion that, like some of the noted Delphic Oracles,—and like that of the juggling fiend in Shakespeare, ("The duke yet lives that Henry shall depose.")—King Henry IV., part ii., act 2, sc. 4), it was "said" with a double meaning.

578 WC: Translation here is difficult; I have given it nearly literally. I suppose the great chief, or leader (*heruwi*), to be the *atua* or demon, who had deceived him.

579 WC: See "Trans. N.Z. Inst.", Vol. XI., Art V., p. 77; and Vol. XII., Art VII., p. 108.

580 WC: Called kai-tuki, hau-tu, etc., —a kind of vocal marine fuglemen, encouragers, chaunters; who, standing on the thwarts (more like birds than men!) directed, and kept, and gave time, both by voice and gesture, to the paddlers.

the same, at regular intervals, with their united voices, which arose together more like the voice of *one man!*<sup>581</sup>

They broke up and prepared their extensive tribal *kumara* plantations, working regularly together in a compact body, chief and slave, keeping time with their songs, which they also sang in chorus. When visitors arrived, the open talk was invariably commenced with a suitable song, which was responded to by the visitors in a like manner; which, indeed—and especially whenever the meeting was an important one—often indicated both their feelings and determination. They took up arms and went to war with songs; they sung them before engaging with the enemy; the watchers within a besieged fort kept on announcing the passing hours, and the movements of the stars and planets, with short suitable songs. They taunted and sorely galled their foes with songs; they gave loud utterance to their most deadly and revengeful feelings in songs; they closed their battles and feuds, and made peace with songs; they bitterly mourned over and bewailed, and finally deposited their dead, with parting songs and dirges. Their many and varied spells, charms, counter-charms, invocations, ceremonial calls and demands, and propitiations, mostly took the poetical form. On entering a forest for the first time to fell a tree, they invariably prefaced their operation with a pleasing song of deprecation to the presiding deity, *genius loci*, or guardian of the place;<sup>582</sup> on their finishing (or opening for reception) of a chief's large or tribal house, that was done always with a poem or song (*kawa*); so, also, on their first casting of one of their immense seine nets—originally made in separate pieces (or nets) by each family, and now put together—they used the proper chaunts or songs. Sufferers by calamity,—as by floods, by drought, or by fire,—the sea, and war,—through theft and slander,—each and all expressed their griefs, and consoled themselves [59], with songs. While the young men and women were undergoing the painful and protracted operation of tattooing, the females sang a suitable song of encouragement and hope. The females, also, courted and covertly indicated their tender feelings in songs; the disconsolate lover sought to assuage his melancholy with songs;<sup>583</sup> and not unfrequently the suicide (especially when a female), and about to throw

581 WC: "Their war-dance is always accompanied by a song; it is wild indeed, but not disagreeable; and every strain ends in a loud and deep sigh, which they utter in concert. ... In their song they keep time with such exactness, that I have often heard above 100 paddles struck against the sides of their boats at once, so as to produce but a single sound at the divisions of their music."—Cook, First Voyage, Vol. III., p. 468.

582 WC: Among their ancient myths and legends are some pleasing and warning stories of some daringly thoughtless persons, who had ventured to hew down trees for canoes without first paying the usual apologetic and deprecatory ceremonies; which have always served to remind me of the story of Erysichthon, who impiously "rushed without shame into the grove of Ceres, and hewed down the trees," and paid a fearful penalty for his transgression (as told by Callimachus in his hymn to Demeter). But those thoughtless Maoris, in all instances, eventually escaped far better than Erysichthon did; although, in some cases, they often repeated their crime. Was this owing to the milder nature of the Maori wood-nymphs—as conceived by the old Maoris?

583 WC: "I think," observes Burns, "it is one of the greatest pleasures attending a poetic genius, that we can give our woes, cares, joys, and loves, an embodied form in verse, which, to me, is ever immediate ease." It is said of Fuseli, the painter, that seeing his wife in a passion one day, he said, "Swear, my love, swear heartily; you know not how much it will ease you!"

herself from a precipice) sang her last words, like a dying swan,—or after the example of Sappho—in a song!

Their handsome forest pet, the *tui*, or parson-bird, (*Prosthemadera novæ-zealandie*), was taught with much pains a very long song, though they might have more easily taught him to whistle.<sup>584</sup> Children sang or trolled songs in summer to lessen the power of the sun's rays, also to cause the rain to cease, and to lull the fierce winds, etc. The chiefs sang suitable songs to their pretty paper kites while flying them, and the young women did the same to their light stuffed and ornamented hand-ball while engaged at their pleasing and dexterous game of *poi*; the women also extemporized their joyous songs over a plentiful haul of fish, or an abundant snaring of birds, and, also, had their semi-humorous songs for their big gourds or pumpkins, in cutting or breaking them up for cooking. The old Maoris even professed to have heard songs, of a highly curious character, sung by the spirits of the dead! and by fancied *atuas*, supernatural beings, while engaged in fishing far out at sea.<sup>585</sup> These latter they responded to and sang their replies.

[60]

When the New Zealanders were first taught to read and write by the missionaries, and for (at least) twenty to thirty years after, they almost invariably in writing a letter or note, began it, after the introduction, with a few words from a song, which also served to indicate (especially to themselves) what was about to follow, or what was particularly meant. As this peculiarity had not been in any wise taught them by Europeans, it is highly characteristic of their strong abiding national taste.

No doubt their common practice of using songs when at their various works and labours, especially the very heavy and continuous ones, originated with them as a means of

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584 WC: Vocal whistling, however, was almost wholly unknown, and never practised, being quite foreign to the natural musical genius of this people; indeed they often showed a dislike to it when made by a European (as I have proved). Probably this aversion to vocal whistling was owing to their superstitious views, as (they said) their familiar spirits or demons (*atuas*) thus made their presence known. Yet they had a peculiar kind of loud whistle in use by their chiefs, made out of hollowed hardwood, though not very common, when Cook visited them.

585 WC: There is a singularity here which has frequently reminded me of what is recorded of the Greenlanders, who, however, did not meet their supernatural visitants so bravely as the Maoris. It is said "that their times were often made painful by fancied terrors; sad sounds were often abroad in the air, and there were noises also on the deep and the shore, for which they could not account. In the sublime description in the Apocrypha, they heard the sound of fearful things rushing by, but saw not the form thereof." And again, "Of spectres they stand greatly in dread. The loneliness of their lives, where the sense of hearing is often invaded with the most appalling sounds, conduces to this belief. The spirits of the lost at sea are heard to come on shore in the dead of night, and utter a mournful wailing." A singular effect of the imagination is also given:—"A Greenlander came from a distant and quite healthy place to visit his sister in the Mission Station; they were deeply attached to each other. Before the boat came to land, he thought he saw her apparition flitting along the shore and beckoning him to come. The Greenlander paused on his oar, and gazed intently on the spot; his companions saw nothing but the rocks and the ice-hills. But there, he said, she was standing, like the dead, and he refused to go near her. They rowed back directly. Overcome with the fright, he fell sick the very day of his return, and infected the people where he dwelt."—Life of Hans Egede.

beguiling their length and wearisomeness, and was wisely and politically used and encouraged by their chiefs.

During the first ten years of my residence in New Zealand I resided in the Bay of Islands, where almost every visit from home had to be made by sea in a boat; and not unfrequently either in going or returning up or down the long tidal arms or rivers (as Waikare, Kawakawa, and Kerikeri), or in visiting the shores of the outer bay (Paroa), I should be many hours at a time in my boat,—sometimes nearly all night,—owing to head wind, or strong adverse tide. At such times, and when my faithful Maori rowers were nearly exhausted, for one of them to strike up a simple canoe- (or boat-) song, would act as a charm upon their spirits, and give them fresh vigour.<sup>586</sup> I am sure that by such means—the wonderful powers of simple song—we have sometimes overcome, or passed through, no small difficulties and even dangers.

Having already in a former paper<sup>587</sup> written on their various kinds, or classes, of poetry, I shall not again repeat the same. Such, however, may be easily inferred from what I have just mentioned; as, of course, their poetry and its music ever varied with the subject:—

“From grave to gay, from lively to severe.”<sup>588</sup> [61]

Nevertheless, I may here observe that their rude poetry, while mostly dithyrambic and generally destitute of what a European would term rhyme and metre, wonderfully abounded in strong natural sentiment,—in pleasing and suitable utterances,—and in fit, and often beautiful, imagery; proving again, even here at the Antipodes, that mere rhyme is not poetry. Indeed, some of its imagery would compare with that used by the best poets of the Old World. But while it was natural and simple, it was all rough, forcible, telling, convincing, gushing, impassioned, affecting,—highly suited to the Maori character. Very much of it was ancient, handed down orally from the olden times, and often ingeniously altered and extemporized (*improvised*) to suit the present occasion; a knack in which the Maoris greatly excelled.

Some few pieces, however, have tolerably regular strophes, and many possess both solo and refrain, or chorus. Often one meets with a startling abruptness of transition; very natural in lyric poetry, especially among a rude and warlike people; by the slightest modification the author's skill fixes the strongest contrasts. Sometimes the maker or singer of the song is both subject and object; again, comparison would be implied with the omission of the particle of comparison; while pronouns, apparently pleonastic, and not unfrequently omitted, would be used emphatically. Inanimate objects, as well as abstract subjects, are very commonly and naturally personified in bold and highly figurative language. Many common things also possess

586 WC: If I recollect aright, Captain Sir James Ross, Dr. Hooker, and the other officers of the Antarctic Expedition, informed me, in 1841, that when they had to raise the deepsea lead (in this case made up to 75lbs.) from their deepest soundings of 4,600 fathoms, the labour was so great that they were obliged to have recourse to the aid of music! A sailor perched on the capstan played on the violin.

587 WC: In “Essay on the Maori Races,” § 46.—“Trans. N.Z. Inst.,” Vol. I, p. 47 of Essay.

588 WC: From Pope's Essay on Man. Epistle iv. Line 379:  
Form'd by thy converse, happily to steer  
From grave to gay, from lively to severe.

mythological names, as in their myths and legends, this alone being a sign of antiquity.

A few of the more striking peculiarities of the composition of their poetry may also be briefly mentioned, as I think them highly characteristic, if not unique: (1) They sometimes have several consecutive lines<sup>589</sup> (three or more), each line beginning with the same few words; and this may occur three, four, or five times throughout the piece. This reminds one of the alphabetical form of some of the ancient Hebrew poetry. (2) Sometimes they have a single word (often an imperative or a passive verb) forming a line, which is followed by two or three other such words, making so many lines, agreeing in syllables and in emphasis, and almost in measure. (3) Not unfrequently the first two or three sentences, or lines of the piece, are again taken up at the end to form the conclusion. (4) Sometimes each line (distich or hemistich) of the whole song or piece ends with the same word or particle. (5) And sometimes, though not frequently, the short concluding [62] and terse ending of every alternate line, containing three to five words, is repeated,<sup>590</sup> so making that line long and the next one very short.

The Maori bards, in their natural imagery, occupied but a short time in description; often transitional it was generally done too rapidly to allow of any detail. More frequently the particular and suitable natural simile was merely seized, mentioned, or alluded to, together with one or two of its more striking points, to be followed in quick succession by moving, natural appearances in preference to stationary ones: *e.g.*, the setting of the sun, the red evening sky, the twinkling of a star, the rising of the moon, the breaking of the dawn, the glistening of the sunbeams, the sudden darkness, the rising of the evening star, the passing of the night hours, the flashing lightning, the hooting of the owl, the blowing of the summer breezes, the light flying clouds, the flowing and the ebbing tides, the billowy sea, the noisy surges, the falling rain, the flowing tears, the joyous seasons past, the various flying birds, the gliding canoe, the moving branches of the forest, the waving of the long leaves of the *kawharawhara*,<sup>591</sup> and of the shining plump heads of the graceful *Arundo* reeds, the thistle-down borne away by the winds, the raging fire consuming the forests, the sulphur-burning crater at White Island, the running brooks, the swift currents both of river and of ocean, etc., etc. And I think that it is in their proper and skilful use of those two great poetical means—namely, simile and living moving nature—that they not only excel, but show their fair claim to IDEALITY, and to rank as poets, for it is to their excelling in those two particulars that our own great British poets owe their justly-earned fame.

We also often meet with this love of familiar natural imagery, and the use of it as similes, in the oldest poets of various nations—as in Homer, Hesiod, and Callimachus; in Virgil and in Ovid; in the Hebrew bards, and also in their prose writers; and, particularly, in the Scotch bard, Ossian.

589 WC: Although I have used the words line and lines, yet I should also state that the Maoris, in writing poetry, never confine themselves to the use of artificially written poetical lines, but continue on as if writing prose; seldom, indeed, using either stops or capitals.

590 WC: Some old Scotch songs that I have formerly seen are somewhat after this fashion, as, for instance, in Burns’—“Ye Jacobites by name.”

591 WC: *Astelia banksii*.

Much of the common natural imagery embraced and used by Ossian is just exactly what an old Maori loved to use, and used in his way too! and some of it we shall yet find in our few examples (*infra*). It was owing to this in great measure, that the early translation (A.D. 1837–8) into Maori of the Hebrew Psalms, and other Old Testament poetical pieces, found such universal acceptance among the Maoris. There is a beautiful ancient passage by the Son of Sirach, (though, perhaps, but little known,)—*Ecclus.* 50, 1—21,—abounding in such natural and pleasing metaphors as the Maori poets commonly used, and all, too, applied to one man! as, the morning star, [63] — the sun shining,—the moon at the full,—the rainbow giving light,—the bright clouds,—the flowers,—the branches of trees,—the time of summer, etc.

In the volume of Maori poetry printed and published several years ago by Sir George Grey, while Governor here, there are collected between 500 and 600 songs and other poetical pieces; to which, I suppose, I could add nearly an equal number,—or (say) about 1,000 in all; and there are, or were, many more, unknown to or uncollected by Europeans. Now, all these were only retained by the old Maoris in memory, and from memory dictated to others, or (in a few instances) written down by themselves. Here, of course, as in the case with their proverbs, there could not be much room for variation; and the oldest and best songs, etc., are much the same, whether rehearsed among the northern or the southern tribes. This, together with the collateral fact of their many ancient myths and legends and fables, and their numerous semi-religious and ceremonial chaunts and recitations, also agreeing in the main, as well as their long ancestral genealogies, is a most wonderful instance of the prodigious memory of uncultivated unlettered man! and certainly to the philosophic mind must ever speak strongly in favour of the ancient Maori. This high faculty, together with those of sight and hearing, which they also eminently possessed, always, when prominently exhibited (as I have known striking instances of) struck me with astonishment.<sup>592</sup>

Their poetry (as far as it is known under the various names of *waiata*, *tangi*, *haka*, *ngeri*, *umere*, *tau*, *keka*, *pana*, *peruperu*, *apakura*, *oriori*, *to*, *tuki*, *whakaaraara*, *tukeka*, *pihe*, *karakia*, *mata*, *hari*, *whakamohio*, *whakatapatapa*, *whakaoriori*, *kawa*, etc., etc.) may be conveniently and briefly classified as follows:—(1) lyrical: (2) historical and legendary: (3) ceremonial, or semi-religious. 1. Their lyrical poetry contains martial, vengeful, taunting, satirical, melancholy, wailing, dirge-like, love, humourous, nursery, and inciting songs. 2. Their historical and legendary—though, with them, it was all alike historical, all equally believed!—included much of the prowess and doings of their forefathers; which they also recited in their traditions [64] and legends. 3. Their ceremonial comprised a large and varied amount of strange and yet often simple utterances

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592 WC: That the Maoris possessed, in an eminent degree, the faculties of both distant and quick sight and hearing has long been known; these natural qualities being generally highly improved and developed among all savage and uncivilized nations. I have often proved their fine and clear sight, in getting them to point out to me the position of Jupiter's satellites by their unaided vision, while I used my telescope. From captains of ships I have often heard of the very great superiority of the Maori seaman in this respect,—in discerning ships, whales, icebergs, etc., at a long distance. Then their fine discrimination of the various shades and hues of colours, particularly of blacks, browns, reds, greens, etc., was truly wonderful. On this subject and its relatives I hope to write a paper.

and recitations (mostly spoken in a whisper or undertone), which we almost want a new English word fully to express; such being neither charm, spell, nor invocation, neither prayer, request, nor supplication; but, as it were, a little of each, with not unfrequently more or less of a command, and sometimes even a threat.

Some slight—yet it may be painful—attempts have been from time to time spasmodically made to render a few of their songs into English; but those who have attempted it, as far as I know, have greatly failed; and that, among others, for two chief reasons:—(1.) They have attempted to do so in the fetters of both rhyme and metre, such too, above all, as the C.M., L.M., etc., of English hymns! or in the equally unsuitable cadenced jingle of Longfellow's "Hiawatha." (2.) They have thought more of themselves as "poets," than of their subjects—if indeed they in every case clearly understood them, which I greatly doubt; for in some instances they do not seem to me to have comprehended the Maori, or, at all events, to have caught the leading ideas in the piece before them; for some (and that not a little) of the Maori poetry is as difficult to be understood by a foreigner—even if he be a tolerably good linguist at common colloquial Maori—as parts of the English translations of Homer and of Dante, of Milton and of Shakespeare would be to an uneducated Englishman; while in the Maori language they would also have the very great disadvantage of not having any good lexicon, or historical work of reference, to aid them. Foreign languages may be usually translated in three ways:—(1.) By a literal version; (2.) By a free translation; and (3.) By a paraphrase. But in the poetry of the New Zealanders, in order to give the true *meaning* of the original, something more than a mere verbal rendering is often absolutely required; for their whole style is exceedingly elliptical, and often abounds in allusions and aposeopesis, and the gaps need to be filled up. Then there is the common want of distinction in gender, both in nouns (proper names) and pronouns, which, where there is so much of personification, often including inanimate things, creates another difficulty; while not unfrequently the song begins and ends with a bold emphatic denial of its true and pregnant meaning. Besides, to translate clearly into English one Maori song or poetical piece, might require a large amount of knowledge of their legendary lore and of historical facts and events, and of their general natural history. Indeed to perform this work well, a person should bring to it not knowledge merely, but sympathetic imagination, and there are few, if any, among us who possess those highly necessary requisites. Moreover the idioms and the whole structure of the two languages are so very dissimilar. But on this head I shall not now dwell, concluding [65] this part of my subject by observing—that those great difficulties should ever fairly be borne in mind whenever we meet with any of those so-called translations of Maori poetry into English metre; far better it would be to translate it into good English prose, accompanied with notes.

I will now proceed to give a translation of a few examples from their poetry, in support of what I have already stated. The first will be a portion of a justly-celebrated Lament, alluded to by me in my last paper.<sup>593</sup>

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593 WC: See "Trans. N.Z. Inst." Vol. XII., p. 88.

**(1.) The Lamentation of Te Ikaherengutu for his dead Children; some of whom were killed by the foe, and some died through wasting sickness.**

Sitting idly here in misery, the chord of my heart continually throbbing concerning my own dear children.—Behold, how great! Here am I, O, my friends, just like the offspring of the forests inland, bowed down towards the ground; aye, bending low down, even as the long lithe fronds of the black fern-tree, without ever once rising upwards, concerning my own dear children. Where, indeed (is he)? O, the dear child, who was formerly cheerfully welcomed with "Come hither, O my son." Ah! he is indeed gone, carried off by the strong ebbing tide.

I continue still in one place, sitting idly, O friends, upon the same plot of ground where my dear children formerly assembled in play—where we dwelt together lovingly! Now (it is become) a slippery plot (on which there is no standing for the foot)—a plot clean denuded and desolated, wholly and entirely despoiled, nothing pleasing left! so that I care not to look up at the sun standing above me, neither to the once fondly-remembered home-mountain standing near! nor even think of the sweet native breeze blowing from (our) home! which one is ever wont to dwell on with affection when the bitter blasts of sorrow are blowing and felt, which are verily as keen as the sharp-cutting icy wind from the south.

Here, indeed, I must mope owl-like in the hut, through the work of that evil-minded friend *Whiro*! My heart is even becoming forgetful of the doings of the many around about me. Was it, indeed, owing to the attempt of my children to steal the moon that they died, or was it, indeed, through (their) attempt to steal on the edge of some cliff that my offspring fell down suddenly, like *debris*, and perished miserably? If it had been so (then) the hateful demons would have banded together in anger against us all, and we should all have been exterminated, never more to be seen; extinct for ever, as the *Moa*!<sup>594</sup>

This fine poem ends with—

Enough! I will not sigh, nor show affection any longer unto you!<sup>595</sup>

There are several similes herein used that require both explanation and attention.

"The offspring of the forests." *lit.*, the begetting of *Taane*—*Taane* being considered, in their mythology, as the special maker or begetter of all the vegetable kingdom.

"The fronds of the black fern-tree." *lit.*, *mamaku* (*Cyathea medullaris*). [66]

This beautiful figure, taken from the long palm-like fronds of this fine fern (twelve to twenty feet), gracefully curved and drooping towards the earth, is not unlike that used by us in funereal subjects, our own "weeping willow." Further, this was the solemn attitude always assumed by the old Maoris in weeping and lamenting over their dead, with body and head bowed forwards, and arms extended together and curved downwards towards the corpse or remains.

"Where indeed is he," etc. Here one is strongly reminded of those pathetic and striking lines by Byron, in the "Bride of Abydos."—

"Hark to the hurried question of Despair!—  
'Where is my child?' and Echo answers 'Where?'—(Canto II.)

A note appended thereto is also worthy of notice—"I came to the place of my birth and cried,— 'The friends of my youth where are they?' and an echo answered, 'Where are they?'" (Arab. MS.)

"Upon the same plot of ground," etc., *lit. kahuipapa*;—i.e. the flats, or small islets and shoals, in or near salt-water lagoons and estuaries, where the small sea-birds, etc., flock and preen and dress themselves in the sun; another beautiful figure.

"The mountain standing near my home," and "the air, or breezes, of my native place." These two beautiful similes have ever been in great esteem among the Maoris, and are still very commonly used by them in letters when away from home and writing thither, not unfrequently causing affectionate tears when read. Those tender and natural familiar expressions closely resemble some of our own esteemed European ones—e.g., the song of "Home, sweet home;" the proverbs, "Home is home, be it ever so homely" (Eng.); "East and west, at home the best" (Germ.); "The reek of my own house is better than the fire of another's" (Span.); "Home, my own dear home, tiny though thou be, to me thou seemest an abbey" (Ital.) And so our British poets—Burns, Scott, Byron, and Wordsworth, and particularly Goldsmith. Cotton, who preceded most of them, has a beautiful hemistich, which I cannot help quoting:—

"The world has nothing to bestow;  
From our own selves our joys must flow,  
And that dear hut,—our home."

Not, however, forgetting Burns' beautiful song,—

"Of a' the airts the wind can blaw."

"That evil-minded fiend *Whiro*."—*Whiro* was, possibly, the worst of all the demon-gods, or supernaturals, of the Maoris; to whose malevolence, death and disaster *on land* were always attributed.

**(2.) The Lament for Te Heuheu, a principal Chief of Taupo;** who, together with about 60 of his followers, was suddenly swallowed up by a terrible [67] land-slip near the south end of the lake Taupo in 1846. (A portion only, less than half.)

Behold! there is the red streak of early morning dawn! appearing on the far-off horizon, over the craggy peaks of the mountain Tauhara. That, perhaps, is my dear friend returning hither? Alas! no; alone am I, uttering vain laments among the dwellings of men.

Thou art, indeed, gone for ever! O precious treasure! Go on, then (in thy way, thou) great one; go on, (thou) who wast feared (by the foe); go on (thou who wast as) the fine big *raataa* trees, protecting those smaller trees behind them from the stormy winds. Let me ask, who was the demon who so evilly overwhelmed you all with sudden death?

Sleep on (with thy face turned) towards us, O (our) father, within the cold miserable house. The string of the prized ear-drop (by which it once hung) is now firmly knotted; that

594 WC: See "Trans. N.Z. Inst.", Vol. XII., p. 88, etc.

595 WC: A version of this poem will be found in Grey's collection of "Poetry of the New Zealanders," p. 9.

ancient prized heir-loom of greenstone; left behind, among us, to become a loved memento for ever of thee.

...

In vain the stars of the heavens plan (their) schemes: the great star *Atutahi* is gone, carried off a prey for the cannibal star *Rehua*. But the fine star shining by the side of the Milky Way, is verily thou thyself! Alas! Alas!

...

(*End.*) Thou hast fallen! thou art lying dead within the bowels of the earth! Alas! Alas! Still thy fame shall resound (as thunder) far off to the other side of the heavens.<sup>596</sup>

“Tauhara:”—a conspicuous craggy isolated mountain, 3,000 feet high, about 30 miles north-east from the place where the calamity occurred.

“Fine, big *raataa-trees*” (*Metrosideros robusta*):—among the monarchs of the forests.

“The prized ear-drop:”—*lit.* “*Kaukau-te-ika-a-Ngahue.*” This was the name of a famous prized ancient ear-pendant; fabulously reported to have been brought from “Hawaiki” [Of this “*ika-a-Ngahue*,” more anon.] “The string” by which it was suspended to the chief’s ear, when alive and worn, being now “knotted,” indicates that it never would be worn again.

“*Atutahi*” and “*Rehua*,” two noted stars.; see “Trans. N.Z. Inst., Vol. XII., pp. 145, 146.

### (3.) The Spell, or Invocation, used by the Hero Whakatau, on his going forth to fight.

“Then the brave warrior, Whakatau, arose, and seized his fighting-belt, and, while girding it on, uttered the following charm, that he and his companions in arms might become bold in battle.” (MS., *ined.*)

If Tangaroa should enquire,  
“Who is that young warrior  
So daringly girding-on my war-belt?”  
(I reply) Nobody at all; nothing, only me,  
Whakatau! [68]  
A man of no rank,  
Lo! the favourable wind arises;  
I hear it; I feel it.  
The strong north wind blows,  
I feel it encircling.  
My foes are already hiding through fear!  
Enclose me around, O Space!  
O Space and Air encircle me!  
O Sky encircle me!  
Who am now here, engaged  
In girding-on the war-belt of the warrior  
I shall stand—as a rainbow,  
Girt with the war-belt of the warrior.  
Lo! the lightning flashes—it flashes!  
The war-belt is rough as the sharp spines of the sea hedgehog;—  
Dreadfully hated it is!  
This war-belt, whose fame carries fear and hiding;  
Whose great fame is everywhere known.  
Do you still ask, “What is this war-belt?”;  
A war-belt of wrath!

596 WC: Grey’s “Poetry of the New Zealanders,” p. 28.

A war-belt of flaming rage!  
A war-belt that destroys and eats up its foes!  
Now you know. Hurrah!

(MS., *ined.*)

“If *Tangaroa* should enquire, etc.” The great fight in which Whakatau was engaged, and so valiantly slew his foes, was commenced at sea and finished on the sea-side; hence the name of “*Tangaroa*,”—who was the Maori “god” (=maker and master) of the sea and of fishes; one of the great Polynesian “gods.”

“Space” (or the clear open expanses, or Air,) and “Sky,” are here invoked, as being the most ancient of all their many personifications.

“I shall stand—as a rainbow,”—see *Proverbs*, “Trans. N.Z. Inst.,” Vol. XII., p. 139, proverb 167. See, also, the closing hemistich of song 13, *infra*.

“Do you still ask, ‘What is this war-belt?’”—meaning, What the consequences of putting it on? [69]

The ancient Maoris went naked into the fight, the principal chiefs only wearing the war-belt; which was first girt on when actually entering into the battle, and was curiously and very firmly fixed. So that the girding it on, was, to them, quite an event; and, in reality, was just as Hector, or Mars, in Homer, putting on their armour.

This poetical piece is most stirring and spirited in the Maori original; and its effect on Whakatau’s followers, when properly chanted by him, to, doubtless, a most inspiring and bold tune,<sup>597</sup> may be guessed. Especially, too, as they had ventured to say to him,—“Don’t attempt it; they are many; thou wilt be killed.” The whole prose legend in its entirety is a capital one. A portion of it, much abbreviated and altered, may be found in Grey’s “Polynesian Mythology,” p. 102.

### (4.) A ceremonial Charm, used in divorcing the man from the woman and the woman from the man:—

A pulling off by Space,  
A pulling out by Sky,  
A great drawing-out from within;  
A letting fall,  
Of [or by] this great priest,  
Of [or by]<sup>598</sup> this knowing teacher;  
Go on.—  
There the post stands—the post stands,  
The very post of the separation.  
It is the Sky that unites;  
If untied above here, then untie  
That you two may be untied,  
Separated here be the bed of you two,  
Where you two were intimate,<sup>599</sup>  
Where you two slept,  
That you two may be untied.  
The Sky itself separates;  
The Earth itself separates.

597 WC: Vide *infra*, near end of this paper.

598 WC: By—here in a secondary sense; passive, or politely lessening. Lit., embraced closely.

599 WC: Although there is a reference mark in the text, there is no footnote: is this the censoring hand of the editor?

Be separate in this evening,  
Be separate in this night.  
Turn away, proceed;  
To the full tide,  
To the tide flowing by night,  
To the tide that resounds in its ebbing.  
Henceforth I turn upwards  
To the untrodden forests,  
Do not thou sigh lovingly; [70]  
Do not thou lament.  
Untie the string of the garments;  
Be rough, be strong, the string of the garments of you two.  
Embrace the *rimu* pine tree,  
Embrace the *totara* pine tree,  
Embrace the tangled fern.  
There the post stands;  
The post indeed of the separation;  
The post of the Sky above:—  
Be thou made all aglow.

For a version of this see Grey's "Poetry," p. 296.

(1.) According to the Maori cosmogony the Sky and the Earth were anciently man and wife, and lived conjoined; but they were forcibly separated, and that for ever, for the good of man.

(2.) The *last* line here (as in that of the first poetical piece, *ante*) must be taken to mean its direct opposite.

**(5.) A soothing Charm, to be recited when the young women are having their lips and chins tattooed,— punctured and stained with black figures.**

(Part only, as a specimen; the whole containing 13 stanzas.)

Lay thyself quietly down, O daughter!  
(Soon it is done!)  
That thy lips may be well tattooed;  
(“Tis quickly performed!)  
For thy going to visit the young men’s houses;—  
Lest it should be said,—  
“Whither, indeed, is this ugly woman going?  
Now coming hitherward.”  
Keep thyself still, lying down, O young lady!  
(Round the tap goes!)  
That thy lips may be well tattooed,  
Also thy chin;  
That thou mayest be beautiful!  
(Thus it goes fast!)  
For thy going to visit the houses of courtship;—  
Lest it should be said of thee,—  
“Whither does this woman think of going with her red lips,  
Who is walking this way?”  
(Still it is revolving!)  
Give thyself willingly here to be tattooed  
(Briefly ‘tis over!)  
For thy going to the houses of amusement;  
(Or) thou wilt be spoken of,—  
“Whither goes this woman with her bare<sup>600</sup> lips;  
Hastening hither indeed (in that state).”  
(Round it revolves!) [71]  
It is done! it is tattooed!  
(Soon it is ended!)  
Give hither quietly thy chin to be imprinted;

600 WC: Lit.—plain, unadorned, without ornament or covering; applied sneeringly.

(Nimbly the hand moves!)  
For thy going to the houses of the single men;  
Lest these ill words should be said;—  
“Whither goes this woman with her red chin;  
Who is coming this way?”<sup>601</sup>

NOTE.—All those separate lines within parentheses, run thus in the original, “*Pirori e*” and the great difficulty is, to know what was really *meant* by that word or phrase. *Pirori* (as I showed in a recent paper)<sup>602</sup> is the name of the curious wimble or drill, of the old Maoris, with which they perforated the hard greenstone; and is used, as a verb, of the making of the drill revolve quickly; also, of the setting a hoop, or a ball, rolling, with a quick jumping or hopping motion; and also (formerly by old Maoris), of a European writing quickly, or shading with black-lead pencil, as in drawing. I am inclined to believe that the word was used here partly in a semi-humorous and partly in a cheering sense; to divert their attention, and to assure them the puncturing operation, always painful, would be soon over. And in this view of it I am also borne out by several old Maoris with whom I have conversed on this subject. Nevertheless I cannot help thinking there is still something more (after their fashion) concealed in the short pithy phrase. In their beautiful and expressive language, so full of natural and truthful metaphor, especially in all matters referring to a young female,<sup>603</sup>—there is a proverbial comparison for a woman’s lips when well tattooed; such are said to resemble a *rori* (*Parmophorus australis*); the plump black smooth and glossy mantle of this shell-fish appearing, when living, its whole length on both sides from under its narrow back shell, and turning up and enveloping its sides, no doubt originated the proverb; and *pi* being the general name for the young of birds and small animals,—the whole sentence may have been intended to remind the person operated on of that (in their estimation) pleasing natural simile—“*Pirori!*”=Beautiful as the black young *rori!* (by keeping quiet).

**(6.) The Cry of the little green Parrot.**

G.P. “O, thou big brown parrot, flying away there!  
Give me back here my own red feathers!” [72]

B.P.—“My red feathers are my own indeed; I fetched them from the sacred isle, *Tinirau*<sup>604</sup> gave them to me.”

G.P.—“*Torete, kaureke; torete, kaureke.*”  
“O, thou big brown parrot, still flying away there!  
Tell me whither art thou flying?  
Art thou flying away to *Poutahi*?  
Art thou flying to *Puke whanake*?  
To carry tidings away to *Te Iripa*?

B.P.—“Verily, I will not reply (do, or say anything) to thee.”

G.P.—“Here am I standing in the preserve, causing Aching-legs, made by *Tokoahu*!  
Here am I both listless and tired out. Alas!

601 WC: See Grey's "Poetry," p. 58.

602 WC: “Trans. N.Z. Inst.,” Vol. XII., p. 93.

603 WC: See “Trans. N.Z. Inst.,” Vol. XII., p. 142, for a few terse proverbs of this kind, referring to females.

604 WC: For *Tinirau*, see Grey's “Polynesian Mythology,” p. 90, etc.

The weary doings of the hot summer days!  
*Torete, kaureke; torete, kaureke!*"

(See Grey's "Poetry," p. 74.)

NOTES.—*Torete*, etc. This is the common cry of the green parrot, according to the Southern Maoris of the North Island, (especially when engaged in quietly talking to itself, as in confinement), hence, too, in some parts it has obtained the name of *Torete*.

*Poutahi*, etc. Those proper names may be all figurative, and used by the little bird tauntingly: *Poutahi* = one pole, or perch, of the big parrot, on which it too will soon be fastened.

*Puke whanake* = hill, or grove, of cabbage trees, (*Cordyline* sp.), on the fruit of which it feeds.

*Te Iripa* = the (one bird) hanging in a village—may mean, the mate or companion bird of the big parrot already caught and made a prisoner, and there being fettered with a cord by its leg to a pole or stick, it sometimes hangs head downwards from its perch in its useless strivings and flutterings.

I suspect this green parrot is itself a prisoner, its own last words facetiously imply as much. Its cage, "made by *Tokoahu*," = *lit.* hot vapour:—*scil.*, a long fellow reaching out or forth, (who hangs me up here in the hot sun), is another figurative play on words. The whole, especially when sung to its own proper tune, is very facetious, especially to a Maori.

#### (7.) A joyous revelling Song, Duet, or Glee, sung by the Wood Rats.

*First Rat.*—O, Rat, O! let us two descend (the tree).  
*Second Rat.*—Why should we two go down below?  
*First Rat.*—To gather up nice baits for us to eat.  
*Second Rat.*—What are those nice baits?  
*First Rat.*—The sweet ripe fruits of the pine trees.  
*Second, or Third, Rat.*—Fudge! I am just come up from below, O my friends!  
And down there is the fear and trembling, my friends;  
The springbolt of the set snare resounds with a click! [73]  
My neck is caught and held fast;  
I can only then squeak, *Torete! torete!*  
Be assured that I will not go down below,  
Seeking those nice baits; alas! no, no!

A version of this song is to be found in Grey's "Poetry of New Zealanders," p. 234.

"The fruits of the pine trees:"—the names are given in the Maori—"miro" and "kahikatea;" *Podocarpus ferruginea* and *Podocarpus dacrydioides*; the fruits grow at the extremities of the long, lithe branchlets, so that the rats could not well get at them on the trees.

"*Torete!*—the same word is here used in mimicry as before by the green parrot.

#### (8.) A Chant used by Children for fine Weather.

Fly, fly away, O thou kingfisher,  
To the thick long-leaved plants<sup>\*605</sup> on the tree;

There snugly shelter thy wings,  
Or thou wilt suffer much from the rain.  
The clouds are breaking—from inland;  
The clouds are breaking—from sea;  
Behold a clear sky! the rain is ceasing!  
The rain is all over! quite cleared is the rain!

(See Grey's "Poetry of New Zealanders," p. 29.)

Much longer ones for the same purpose were also used by adults, but were just as simple.

#### (9.) A Charm, causing Healing of Wounds, to be recited for the fresh green gourds when about to be broken-up and baked in the earth-oven. Then the woman who is baking them must say:—

The children, like them! are crying  
For their nice food of green summer gourds:  
The gourds are plentiful:  
The seeds of the gourds are sown;  
The gourds grow;  
The running branches stretch out,  
They grow abundantly.  
Grow on, abundantly!  
Be ye many;  
Grow away fast;  
Be ye numerous;  
Grow on, become good gourds;  
Be ye flourishing!

(A version of this is at p. 388, Grey's "Poetry of New Zealanders.") [74]

#### (10.) A Sentinel's Cry, or Watch-song, at night, within the besieged fortress.

Here is the owl hooting away bravely!  
He is not moving up and down on his perch;  
Not he!  
No, not even once uplifting his head to look about,  
The thumping big head of the owl!  
Not gliding away on his wings,  
But staying and hooting!  
Now,—It is night! it is night!  
Anon,—It is day! it is day!  
Open broad daylight,—Hurrah!

(Grey, loc. cit., p. 62.)

The inference from the natural actions of the undisturbed owl on the neighbouring forest-trees is,—that there is no enemy prowling near; so, sleep on; we (the owl and I) are watching.

#### (11.) Another Watch-song.

It is night: it is night:—  
It is day: it is day:—  
The moon it is breaking;  
The bird it is singing;  
Broad day-light is coming!  
It is day! it is day!  
It is broad day-light!

(Grey, loc. cit., p. 40.)

605 WC: Lit., "Puwharawhara" (*Astelia banksii*).

In their watch-songs, used *within* the fort (of which there are several, as may be supposed), there is always more or less of the coming dawn, and of its harbingers;—the wished for morning dawn,—the stars heralding the approach of the dawn;—expressed in various natural ways. Reminding one of the many not dissimilar bold and beautiful expressions in the Psalms, and in other parts of the Old Testament, *re* “the waking up of the morning,”—“the dawning of the morning,”—“those that wearily watch for the morning,” etc., etc.—(*Psalms* 30–5; 57–8; 130–6, etc.); and, also, in *Ovid*,—“*Evocat auroram.*”—*Met. XI.*, 597.

#### (12.) Another Watch-song.

The moon shines brightly!  
The moon shines brightly!  
What is to be seen?  
(Here) the spears strong and ready!  
(There) the spears weak and fearful!  
Mine were not quite true to aim;  
Yet they shall be.  
Thine were not true to aim, [75]  
For thine fell to ground.  
A long way off! oh!  
With us is the god of war—*Tu*,  
Who approves of close fighting.  
Ye will not come on!  
Ye dare not! Ye say,—  
“Just leave the assault till they fear.”  
Ha! ha! But know ye,—  
The eye of the leaders of war  
Never sleeps;<sup>606</sup> never winks! oh! oh!

A truly fine spirited song in the original. (MS., *ined.*)

#### (13.) A Love-song. By a widow, or a widower, for the partner deceased.

(Part only.)

Go on setting, O thou sun!  
Descend into thy cave,  
To carry tidings thither!  
Alas! alas!  
The tears fall plentifully from my eyelids,  
Gushing like a flowing tide;—  
But thou repliest not!  
Alas! alas!  
...  
Truly grey hairs are showing  
On my dear friends;—  
But with me especially,  
Alas! alas!  
The flowering plume of the *Arundo* reed,  
Shows prettily, glancing in the sun  
In the seventh (moon),—  
Alas! alas!  
In the eighth (moon) it is blown away!  
Alas! alas!  
The rainbow shows brightly in the dark cloud,  
But the lightning is flashing!—  
All is over!—  
Alas! alas!

(MS., *ined.*)

An altered version of this beautiful song is on p. 261, Grey's “Poetry.”

#### (14.) A Love-chaunt. (Part only.)

Rain on, O thou rain! Continue to rain down without, there; here am I, within the hut, deplored my distress, and comparing (this with that), for my eyes are as if supplied with water from a flowing spring. It is the great love I bear to the fond one of my affection that causes these fierce convulsive pains: the dear one who is so greatly desired and hoped for! Now, alas! thou art separated, far off to a distance; who will return thee [76] hither to me? And you, my hundred friends, who are strenuous to aid me, leave it for a while; just merely for a little (time), while I am sitting-up a bit. Be assured, I shall not wait long, only until the moon rises; then I, also, will go forth, to look at the fleecy clouds sailing hither, coming this way over the mountain.

Alas! the boundary that parts us, dear young lady! is as a great ocean-depth to thee. Notwithstanding, in that one direction towards thee, my eyes are dim with steady gazing. For thou alone art the only one of my deepest affection, etc., etc.

NOTE.—The great beauty of this song, in its commencement, arises from the poet's making it to rain heavily and unceasingly *without*, while he is lamenting *within* a miserable hut, and comparing the flood of waters flowing from his eyes with the falling rain! The imagery is so natural, plaintive and affecting, that it is worked up into many of their love-songs. So, again, where he says—“wait a while,—*while I am sitting up a bit;*”—meaning, just as a sick person, who is weak when roused to get up. (A version of a part of this song is at p. 396 of “Grey's Poetry.”)

#### (15.) A Love-song. By a Widow for her Dead Husband. (Part only.)

After the evening hours,  
I recline upon my bed,  
Thy own spirit-like form  
Comes towards me,  
Creeping stealthily along!  
Alas! I mistake!  
Thinking thou art here with me  
Enjoying the light of day!  
Then the affectionate remembrances  
Of the many days of old  
Keep on rising within my heart!  
This, however, loved one; this  
Thou must do,—  
Recite the potent call to Rakahua  
And the strong cry to Rikiriki,—  
That thou mayest return (to me).  
For thou wast ever more than a common husband,—  
Thou wast my best-beloved,—my chosen;  
My treasured possession! alas!

(MS., *ined.*)

(This, in part, worked up with another song, will be found in Grey's “Poetry of the New Zealanders,” p. 352.)

606 WC: See “Trans. N.Z. Inst.” Vol. XII., p. 139, for this proverb.

NOTE.—The cries, or invocations, to Rakahua, and to Rikiriki, often mentioned in their poetry, etc., were said to be to those beings who had power to restore from the dead.

#### (16.) A Love-song.

Rise up quickly, O thou Moon! make haste to get above me, that I may give vent to my sighing, and utter my laments! Now, indeed, for the first time, do I feel the pangs of [77] love; it is as if a demon, or a lizard, were within me gnawing. If, indeed, my people, you are not willing to dwell with me, and bear me company in my distress,—you had better separate yourselves to a distance; for the love within me is very great; far, indeed, beyond expression.

O ye light, fleecy clouds, flitting above; fly on, fly away, and carry tidings, that my beloved one may hear of me in her anxiety. Here, also, am I, in very great perplexity. I must hide my strong affection for the one I love. Alas! alas! my very eye-sight is fast failing me; when I look at the distant headlands, they quiver and are dim!

If the burning sulphur-crater at White Island were near me,—gladly thither would I go; turning away from all my friends,—never more to return hither; but for ever remain absent in the dreary cold South.—(MS., *ined.*)

#### (17.) A Love-song, or Lament. By a Wife for her Absent Husband.

The eye is strained and wearied with the long looking-out;  
Thou art, to me, the peaks of firmly-fixed affection!  
If I were but a bird, then I could fly away,  
Then, indeed, my wings would quickly become extended.  
My own very heart is no longer faithful to me,  
Hanging, far away, suspended! I see the fine white clouds  
Above me, flying hither, over the far-off mountain tops,  
Beyond which is the husband so dearly loved by me.  
In the house I am being eaten up with anxiety;  
The husband was unwilling to dwell here with me!  
But now thou art separated, a long way off from me,  
And my remembrances come crowding in hundreds,  
Causing the flowing tears to trickle down from my eyelids.

(Grey, *loc. cit.*, p. 62.)

Those few examples of striking natural imagery herein brought forward, are both varied and brief. Among them are,—melancholy, warlike, ceremonial, humourous, and love pieces; some whole, some only in part;—having purposely excepted the long historical, legendary, martial, revengeful, and ceremonial ones (as such would require much explanation for a European reader); also, all of a licentious character,—of which there are many, as might be supposed, among a people where all and everything was open and naked. Yet, no doubt, in the martial and revengeful pieces, so truly characteristic of the people, the Maori poets more fully rise with the occasion; there the poet shows himself as absolutely “dowered with the hate of hate, and scorn of scorn!” I might, also, have shown much more of their numerous natural beauties, had I confined myself to a line or two, here and there, containing a single beautiful image or expression, and so have picked them out from a large number of poetical pieces; and such would also have been easier for me,—but I considered, that in following the plan I had adopted, I have given both longer and more continuous (unbroken) specimens, and done the Maori poets

justice. I have mostly [78] preferred to take them from Sir G. Grey's published collection, or, at all events, to refer to such when found therein (although, in several instances a different version, having been altered, as is frequently the case) as, in my so doing, the published Maori originals could be referred to by those possessing that book.

In conclusion, I would make a few remarks on their musical talent, this being a natural and necessary part of the subject, seeing that the old Maoris either sung or chanted all their poetry. And I am the more inclined to do so from the fact of so very little being known about it for this—the music (unlike the words) of their poetry—has nearly become wholly lost both to them (their descendants) and to us.

This I purpose considering briefly under two heads—I., Instrumental; and II., Vocal.

I. Of their *Instrumental Music*.—Here, however, little can be said, save that they did possess such; and that, rude as it was, they sought to vary it in many ways, showing (1) their musical faculty, and (2) their endeavours after its improvements. But to do them justice, we must never lose sight of this one great fundamental fact, already mentioned by me,<sup>607</sup> *their utter ignorance and want of all and every kind of metal!* How, then, it might well be asked could they possibly manufacture a musical instrument? Still they strove to do it, and, to a certain rude extent, succeeded. Their attempts in this direction have always served to remind me strongly of what the ancient Greeks related concerning the early endeavours of Apollo himself in constructing his first lyre, or harp, from the castaway shell of a tortoise and a few strings drawn across it!

First I would observe that their instruments were nearly all wind instruments, which they played or sounded with both mouth and nose, having, however, separate instruments for each service. Of these, fortunately, we have a few accurately drawn and described by their first European visitors; also a few deposited in museums at home. Yet, while the proper names of several of them still remain (though some are for ever lost) an accurate description of all of them is not now to be obtained from the Maoris. I myself, in all my researches during a lengthened residence, have seen but a few—a poor remnant! They were all made of wood, bone, or shell, and may be conveniently classed under three familiar names: (1) trumpets, (2) flutes, and (3) whistles.

(1.) The *trumpets* were made of wood or shell; for this latter purpose the shell of the large *Triton (T. australis)* was used, its apex was neatly cut off, its mouth scraped, and the whole shell polished, and a mouth-piece of hard wood, suitably hollowed and carved, was ingeniously and firmly fixed [79] on. Here I must notice a most curious plan which the old Maoris seem to have had for increasing, or altering, the power of the sound of their conch shell. An ancient trumpet of this kind (formerly belonging to the old patriotic chief of Table Cape, Ihaka Whanga, but now the property of Mr. Samuel Locke, of Napier,) has a thin piece of dark hard wood, of a broadly elliptic form, and measuring 5 × 3 inches, most dexterously fitted in to fill up a hole in the upper part of the body or large whorl of the shell; which piece of wood is also curved, and ribbed, or scraped to resemble and closely match the transverse ridges of the shell; and additionally carved, of course, with one of their national devices; besides being ornamented with strips of

<sup>607</sup> WC: See “Trans. N.Z. Inst.” Vol. XI., p. 80.

birds' skin and feathers;—the plumage of the *kaakaapo* or ground parrot, (*Strigops habroptilus*). At first I had supposed that the said shell, having been somehow broken, had been repaired by having this piece of wood set in; but on further examination, and also comparing it with the figure of a similar New Zealand shell trumpet in Cook's Voyages (*Second Voyage*, Vol. I., plate 19,) which has, apparently, a precisely similar piece of dark wood let into it! I have concluded as above, that, in both instances, such was done purposely. The old Maoris informed Mr. Locke that only one sort of wood was used by them for such purposes, it being very sonorous, *viz.* *kaiwhiria* (also, *koporokaiwhiri*, and *porokaiwhiri*)=*Hedycarya dentata*. Of this wood they anciently made their best loud-sounding drums, or gongs (*pahu*), which were suspended in their principal forts. They also manufactured several other musical instruments from this wood, for the producing of delicate sounds to accompany their singing; some of which processes being highly curious (and all but wholly lost) may be here briefly described.—1. Two small smooth sticks, each about 18 inches long, were made, one of them was held in the mouth, while the other was used to strike that one at the end; the performer at the same time humming the tune. 2. Another manner of musical performance was by two persons standing about 4 feet apart, each holding a prepared rod of *kaiwhiria* wood, of the length and size of a walking-stick; these sticks were thrown to and fro alternately, and gently and dexterously caught, but so that they should while passing in the air touch each other, and give out the exact note required; the two performers at the same time chanting their song. Might this wood not be advantageously used for stethoscopes, etc., etc. Their wooden trumpets were also very peculiar, made of pieces of hard wood, scraped and hollowed and jointed, and very compactly put together, after a highly curious fashion, so that the joinings are scarcely seen! Some long ones have a large hole in the middle of the instrument, whence the sound issued, which was there modified by the hand; and others, four feet in length, have a singular (if not unique) central piece, larynx, or diaphragm, [80] set a long way (12–14 inches) within its mouth,—the sound of this kind was emitted from its larger aperture at the big dilated end;<sup>608</sup> to me, this instrument seems a really wonderful work and contrivance! The noise they made with some of their trumpets was very loud and powerful, and must, I think, be justly termed discordant, if not absolutely hideous, to an European ear; yet by their different sounds their several chiefs in travelling were known. And not only so, for those loud-sounding instruments were also used as speaking-trumpets to carry words to a distance.<sup>609</sup>

608 WC: One of these peculiar trumpets (and, as far as I know, the only one remaining in New Zealand) is also in the possession of Mr. Samuel Locke, of Napier, who kindly lent them both to me, to exhibit on my reading of this paper.

609 WC: Of this we have two notable instances in the historical traditions of the Taupo tribes, which, as they are very rare, I may give here.

(1.) When the tribe of Ngatituwharetoa were returning from the battle and slaughter of the Marangaranga people, and had reached the beaches of Taupo lake, they sounded their big trumpet as a sign by which their approach should be known. On hearing it, a lady named Hinekahuroa, one of the Ngatikurapoto tribe, then living at Rotongaio, deeming it to be an insult, bawled out a bitter curse upon them (Pokokohua ma!—mummified heads); which they hearing immediately retaliated with another fell curse, making their trumpet to say “To roro, To roro,”—thy

(2.) The flutes were made of wood and of bone—when of the latter it was human bone. They were of various lengths, generally six to eight inches long, open at both ends, and having three holes on one side and one on the other. The wooden ones were ornamented with a great amount of carving and inlaying, each being an example of skill, industry and patience, and of the time necessarily taken in its construction. Those for the mouth were differently formed from those for the nose. One of the smaller ones (often made of bone) was not unfrequently worn suspended from the neck of a chief. On these the old Maoris managed to play simple Maori tunes and airs.

(3.) Their whistles were very large; that is, thick, obtuse, peculiarly [81] shaped, and something like a short thick tongue, some being a little curved. They were made of hard wood, scraped, polished, and profusely carved, and inlaid with mother-of-pearl; these, also, were worn by the chiefs, hung to their necks. Parkinson (Sir Joseph Banks' draughtsman) has given a drawing of one in plate 26 of his interesting “Journal,” figure 24;—in describing it he says,—“A whistle made of wood having the outside curiously carved; besides the mouth-hole they have several for the fingers to play upon. These, which are worn about the neck, are 3½ inches in length, and yield a shrill sound.” I suspect that these, like their trumpets, were not used for obtaining any proper tune, but only for the purpose of making a loud call,—as from a chief to his followers.

Captain Cook, in his first voyage, when on this subject, briefly says,—“They have sonorous instruments, but they can scarcely be called instruments of music; one is the shell, called the *Triton's trumpet*, with which they make a noise not unlike that which our boys sometimes make with a cow's horn: the other is a small wooden pipe, resembling a child's nine-pin, only much smaller, and in this there is no more music than in a pea-whistle.”—(Vol. III., p. 468.) Either Cook, then, had not seen them all, or Dr.

Hawkesworth, in compiling that history of the *first* voyage, had overlooked it;—I think this latter the more probable.

Forster, who accompanied Cook in his *second* voyage remarks,—“They also brought some musical instruments, among which was a trumpet, or tube, of wood, about four feet long, and pretty straight; its small mouth was not above two inches, and the other not above five inches in diameter; it made a very uncouth kind of braying, for they always sounded the same note, though a performer on the French horn might perhaps be able to bring some better music out

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brains, thy brains. This so irritated that chieftainess, that she followed it up with another, still longer and worse, which, of course, was as promptly repaid back by them in kind, through their trumpet; and the end of this was that two towns (pas) were besieged and taken, and the inhabitants ruthlessly slaughtered, within a month.

(2.) Another instance was that of a chief named Ruawehea, a grandson of Tuwharetoa, who had managed to inveigle Maoris of another tribe (Ngatitama) to become his dependants, and, afterwards, whenever he should visit them in his canoe, he caused his trumpet to proclaim his approach, ordering food to be got ready for him, and ending with insulting language and curses, all spoken through his trumpet. The people of that village bore it for a considerable time, but one day on his landing at their place as usual, he was decoyed into their house of reception and killed—for the insulting words spoken through his trumpet. Of course, that also quickly ended with a fearful revenge and full slaughter.—(Historical Incidents of the Ancient Tribes of Taupo:—MSS. ined., W.C.)

of it. Another trumpet was made of a large whelk (*Murex tritonis*) mounted with wood curiously carved, and pierced at the point where the mouth was applied; a hideous bellowing was all the sound that could be produced out of this instrument. The third went by the name of a flute among our people, and was a hollow tube, widest about the middle, where it had a large opening, as well as another at each end. This and the first trumpet were both made of two hollow semi-cylinders of wood, exactly fitted and moulded together, so as to form a perfect tube."—(*Forster's Voyage*, Vol. I., p. 227.) I think Forster could not have seen their small flute (which is a very differently-formed instrument, and without "a large opening in the middle"), on which alone they played their plaintive airs;—at all events, such is not included in the above.

Second, we have the proof recorded by competent early visitors, of the abilities of the New Zealanders in playing tunes on their *flutes*; which they could only have attained to through long and persevering practice. And [82] this, to me, is indicative of both a high musical ear and a love for music,—to find that they could patiently succeed in extracting even a short series of pleasing notes from such wretched instruments.

Captain Cruise (84th Regiment), who was in New Zealand in H.M.S. "Dromedary," in 1820, and who spent nearly a year here, and therefore had far better opportunities for observation, remarks in his "Journal,"—when in the Thames, and not far from the site of the present town of Auckland,—"Two chiefs came on board; one of them, a very tall handsome man, wore a carved flute or pipe round his neck, upon which he played the simple but plaintive airs of this part of the island, with much correctness."—(*Loc. cit.*, p. 212.)

I may here mention a few incidents which have in past years come under my own special notice, as further showing their natural ear for music—or melody.

(1.) It is well known that at an early date, say forty years ago, the Maoris showed a great desire to obtain jews-harps, this was common. But to see them—one at a time being quite enough!—critically examine and try a whole score, or more, of those little instruments, before one was found that was "soft" enough (or suitably melodious) in its twang to please their ear! I have known them to leave the store where jews-harps were sold without purchasing one after trying many, though sadly in want of one at the time, rather than bring away a "hard" or unsuitable one. They also often spent much time in endeavouring to alter its tone, by trying all manner of schemes and plans with its tongue. Again: in later years, I have known them to improve on the sound of the jews-harp (for their ear), by fixing a small lump of sealingwax, or *kauri*-resin, on the projecting end of the tongue of the instrument, for the purpose of playing the same *within their mouth and with their tongue*, instead of with their finger! This certainly rendered the sounds much softer than when played in the usual way. Young men would sometimes be thus occupied for one or two hours, evidently delighting themselves with the dulcet sounds. Another little-known item in connection with jews-harp playing, or its musical sounds, I may also mention, as it is very peculiar, namely, I have known the Maoris anxiously to beg for old dessert knives when worn out by constant use and scouring, to make with them (the worn thin remnant of a blade) a small instrument resembling a jews-harp, its sound, they said, being so much sweeter.

(2.) A little Maori lad, named Itama, whom I was training, and who lived with me some time, showed at a very early age a most refined ear for music. Seeing that he was always endeavouring to elicit pleasing sounds from threads and twine strained over a bit of board, or a shell, I procured him some catgut of different sizes, which highly delighted him. He then [83] sought (in his own quiet persevering way) pieces of wood of various sorts and shapes, and cut them and fixed his chords to please himself, making, at length, sweet sounding instruments; and often have I known him to spend hours in quietly listening to those soothing sounds, especially during one long dreary and painful season, when he was in the doctor's hands for his eyes, which ended in his totally losing the sight of one of them. At such times I have been led to think upon Wordsworth's beautiful and appropriate lines:—

"And she shall lean her ear  
In many a secret place,  
Where rivulets dance their wayward round,  
And beauty born of murmuring sound  
Shall pass into her face." —(LUCY).

But there is much throughout the whole of that poem strictly applicable to the subject of this paper.

Another lad, whom I had residing with me at a much earlier period, also showed a fine natural ear for music. I bought him a piccolo flute, and he early taught himself to play on it. I have known him after hearing a tune a few times (at church, or elsewhere), to come home, and in a very short time to play it correctly and harmoniously on his little flute. This, too, he did with several of our tunes, of course, all without notes or previously knowing them.

II. *Of their Vocal Music.*—Under this branch I have very little additional to say; the true old Maori singing differing so widely from our own; although some of it approached pretty nearly to a few of our more simple chaunts. The vocal Maori music, as a whole, has, like their own instrumental, almost become extinct. One remarkable feature, however, concerning their vocal music I would relate, as I am sure it is but little known;—namely, that almost every song or poetical piece had its own proper tune,—and must not be sung or recited to another! Indeed, the words alone of any newly-heard song, however spirited or approved of, were not valued without its tune. When I first discovered this I was astonished, and could hardly believe it, until I had repeatedly proved it. For, in my extensive yearly travelling, some 30–40 years ago, throughout the North Island, always having Maoris travelling with me, I found, in getting to a strange place or people, that my companions could do nothing with a new song they had brought with them, unless they also knew its proper tune. And I myself, when sometimes quoting a line or two from an unknown song, should soon be teased about its tune—"He aha tona rangi?" would be frequently asked. Here, then, is another addition to their amazing powers of memory, already alluded to by me in this paper.

I will conclude with two quotations from their earliest visitors, [84] containing their remarks on this subject. Captain Cook says,—"A song, not altogether unlike their war-song, they sometimes sing without the dance, and as a peaceable amusement. They have also other songs which are sung by the women, whose voices are remarkably mellow and soft, and have a pleasing and tender effect; the time is slow, and the cadence mournful, but it is conducted with more taste than could be expected among the poor ignorant savages of this half-desolate country; especially as

it appeared to us, who were none of us much acquainted with music as a science; to be sung in parts; it was at least sung by many voices at the same time." (*First Voyage*, Vol. III., p. 468). And Mr. Anderson, who was the surgeon in Cook's ship on his third voyage to New Zealand, thus writes:—"The children are initiated at a very early age into the keeping the strictest time in their song. They likewise sing, with some degree of melody, the traditions of their forefathers, their actions in war, and other indifferent subjects, of all which they are immoderately fond, and spend much of their time in these amusements, and in playing on a sort of flute. Their language is far from being harsh or disagreeable, though the pronunciation is frequently guttural; and whatever qualities are requisite in any other language to make it musical, certainly obtain to a considerable degree here, if we may judge from the melody of some sorts of their songs." (*Anderson, in Cook's Third Voyage*, Vol. I., p. 163.) But far beyond all, as I take it, is the scientific testimony of Dr. Forster, who was with Cook in his second voyage to New Zealand,—already, however, given by me in a former paper, with some interesting additions from Sir G. Grey's work.<sup>610</sup>

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### **1880 Description of a new species of *Metzgeria*; also a brief notice of the finding of *Bæomyces heteromorphus*, Nyl., in New Zealand.**

*Transactions of the New Zealand Institute* 13: 368-370.

[Read before the Hawkes' Bay Philosophical Institute,  
12th July, 1880.]

#### ***Metzgeria (Symphyogyna) rugulosa*,<sup>611</sup> n.s.**

*Plant* terrestial, sub-erect, of close half imbricate growth, forming little beds; *root* creeping, densely tomentose, colour light brown; *stipe* 2-3 in. long, sub-flexuose, whitish, translucent, semi-succulent, two-nerved downwards from the fork (four-nerved above), nerves very distinct; *frond* darkish green, very membranaceous, drooping outwardly, flabellate and kidney-shaped in outline, 10-12 lines broad, 5-7 lines long, forked, symmetrical, each main division trichotomously divided and two-nerved, semi-rugulose on upper surface glabrous; *segments* linear, 2-3 lines long, 1 line broad, [369] bifid, emarginate, transparent, midrib very apparent and extending to margin at emarginate apex, margins entire; *fructification* 3-5 on one frond, from below at the fork of main division of frond, and again at each fork of the secondary divisions; *calyptra* tubular, 3 lines long, very slightly incised at top (somewhat resembling the tubular capsule of *Cerastium vulgatum*), at first white, but after flowering bearing a pale reddish tinge; *involucr*e crisped and fimbriate; *capsule* (immature) at first linear-elliptic, dark coloured, enclosed in tubular calyptra, 1 line long, afterwards seated on long whitish succulent fruit-stalk, 10-12 lines long, bursting into four red-brown valves, cohering by their apices.

This interesting and curious little plant has very much of the appearance of a stipitate *Symphyogyna*, to which genus I should undoubtedly have referred it had I not fortunately (after much research) found it in fruit. It is very like *S. flabellata* in general appearance, though quite distinct, and without fruit, and at first sight might easily be confounded with it. It has many natural characters in common with that genus, but from the position of its ventral fructification it is placed (provisionally) under *Metzgeria*. It seems, however, to serve to unite those two genera. Although closely resembling *Symphyogyna flabellata* in some particulars, it differs from it not merely in the situation of its fructification, but also in its involucral scale being much more crisped and even fimbriated (which, in that species, has plain margins), while the top of its calyptra is very much less incised (which, in that species, is largely cut and fimbriated), and the segments of its fronds, instead of being obtuse, as in that plant, are emarginate. It also largely differs in its habit of growth. Another peculiarity is its bearing two manner of fronds from the same rhizome: one, the larger and often fruitful one, as described; the other is much smaller, and, though forked, is less cut, and more palmate or sub-flabellate in outline, with the upper part of the stipe winged, its colour a light green, quite glabrous and smooth, and highly transparent. At first I had supposed it to be another species, but subsequent and frequent examination has confirmed its forming with the other and larger frond only one plant.

*Hab.*—On the banks of a watercourse in a deep, secluded, damp glen, on the west side of the main road, about four miles south from Norsewood, in the "Seventy-mile bush," May, 1880, with immature fruit; and again in October, 1880, with fruit fully ripened, and passing. Hitherto I have only detected it growing in one small spot, though there plentifully.

#### ***Bæomyces heteromorphus*, Nyl.**

*Thallus* constaceous, spreading, thin, greyish or dull-white; *apothecia* reddish flesh-coloured, orbicular, flat or very slightly depressed, with a finely crenlated margin, 1-5 together, separate rarely confluent, on a thick [370] short stipe (*podetium*), which is generally cylindrical in the lower part and sub-branched in the upper, each branchlet terminating in an apothecium.

*Hab.*—On sub-vertical clayey banks, in the forest ("Seventy-mile bush"), between Norsewood and Daneverk, forming large patches, and growing with *B. rufus*.

I was much pleased in detecting this pretty little plant, especially in finding it growing together with its allied species *B. rufus*; the contrast between them was great, in the thallus as well as in apothecia, and showed advantageously. Hitherto, I believe, this species has only been found in Tasmania.

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610 WC: See "Trans. N.Z. Inst.", Vol. XI., pp. 103-106.

611 *Hymenophyton leptopodium* (H. & T.) St.

## 1880 The ferns of Scinde Island<sup>612</sup> (Napier).

*Transactions of the New Zealand Institute* 13: 370-376.  
[Read before the Hawke's Bay Philosophical Institute,  
11th October, 1880.]

I HAVE often thought that it would not be undesirable to bring to your notice the ferns of Scinde Island; that is, I regret to say, those which *were* here until lately, for many of them are no longer to be found within its limits.

And this fact of some of them having already become extinct (like much of the old, striking, and curious indigenous vegetation of the extensive flats and plains adjoining) is another reason, with me, for putting on record those ferns that formerly existed here, which I myself have often seen and, with one solitary exception, gathered. For, in times to come, it might well be doubted whether any ferns—save, of course, the common ubiquitous *Pteris esculenta*—could have ever inhabited this small high, dry, and isolated islet-like limestone mound, destitute of fresh-water.

And there is yet another valid reason, viz., that among them were two, if not three, peculiar ferns, which are also local and comparatively rare in New Zealand.

In the "Handbook of the New Zealand Flora," by Sir J.D. Hooker, 31 genera of ferns, containing 120 species (exclusive of varieties), are described; some of those however have not yet been detected within the area of New Zealand proper, but only in far-off outlying localities—as Chatham, Auckland, and Kermadec Islands. Here, within this small area of Scinde Island, containing only 660 acres (and now comprised within the Borough of Napier), there were no less than eleven of those 31 genera, or one-third of the whole; and of the said 120 species, fourteen, together with, at least, one new species, not known to Dr. Hooker, making a total of fifteen. [371] Those several genera I will take in the order in which they run in the "Handbook" of our New Zealand flora.

1. *Cyathea*. Of this fine genus of tree-ferns the beautiful new species, lately described by me (*C. polyneuron*),<sup>613</sup> was first found in 1865, young and small, growing among the common fern (*Pteris esculenta*), on my land on the hill-side. I removed it into my garden, where it has thriven remarkably well, although it suffered severely during those two very dry summers in succession of 1878 and 1879; it is now 7 feet high.

2. *Adiantum hispidulum*. This fern has been found growing sparingly in cliffy spots on the west side of the "Island." It is rather rare in all this district.

3. *Adiantum affine*. This pretty little fern formerly grew densely in beds on ledges of the clayey cliffs on the north side of Hyderabad road, at the south end of the "Island."

4. *Cheilanthes tenuifolia*. This fern I have often found in various parts of the hills growing among the common fern. Also, a very large and undescribed variety (or a distinct species of a fern of this genus) of diffuse rambling growth,

of which I may have something more of say hereafter, as I fortunately possess specimens.

5. *Pteris esculenta*, formerly all over the "Island," in some parts attaining to a large size, 6-7 feet high.<sup>614</sup>

6. *Pteris tremula*. This elegant species also grew strongly here. I have still good thriving plants in my garden brought in from the adjoining hill.

7. *Lomaria procera*—a small common variety—grew sparsely scattered in damp shaded spots and gulches on the hill-side; also, a larger variety on the flat below.

8. *Doodia*. A very fine species or variety of this genus also grew sparingly here, which differed largely from the northern species. I have both known and cultivated this fine fern for upwards of thirty years, having in 1848 removed plants of it from this hill to my old residence at Waitangi, near West Clive. Did I not believe that the various plants of *Doodia* found at the north (where also they are very common) are all varieties of one species,<sup>615</sup> I should be inclined to consider our Scinde Island plant as forming [372] another and distinct species, inasmuch as it varies considerably from those northern plants (*D. media* and *D. caudata*, of Dr. Hooker's "Handbook"), and does not agree with their separately-published specific characters. It is much the finest of all our New Zealand varieties or species *Doodia*. I shall, however, in a separate paper<sup>616</sup> give a description of this plant, *D. squarrosa*, mihi.

9. *Asplenium flabellifolium*. I have formerly gathered fine specimens of this elegant little fern among herbage in gravelly spots; even now it is to be found in cliffy nooks on the west side of the "island,"

10. *Asplenium obtusatum*. This common sea-side fern grew on the cliffs near to the Bluff, on its north-east side.

11. *Aspidium richardi*.—This plant grew sparingly in fine tufts on the hill-sides among the common fern. I removed some plants into my garden a few years back, where they have grown very well.

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614 WC: I know that twenty years ago, before the place was cleared of fern, my mule (a tall animal) was often lost in it, and could only be detected by her big ears just peering above it!

615 WC: In a description of some (then) newly-discovered New Zealand ferns, published by me in 1843 (in the "Tasmanian Journal of Natural Science," Vol. II., p. 162), I said:—"The number of the species of New Zealand ferns published by A. Cunningham in his "Precursor" amounts to eighty-five, from which I venture to hazard an opinion at least two species—*Niphobolus bicolor*, and *Doodia caudata*—will have to be deducted, as I believe these will be found to be merely varieties of *N. rupestris* and of *D. aspera*." At that time I did not know the true *Doodia aspera*, which was then, on the authority of the two brothers Cunningham, and of the French botanist, A. Richard, all of whom had "gathered the plant in New Zealand," said to be a New Zealand fern, but which is now considered an endemic Australian one. Nearly twelve years after my publication, Sir W.J. Hooker, in his "Species Filicum," when writing on *D. aspera*, says:—"Our herbarium, though eminently rich in New Zealand plants (including Sir J.D. Hooker's collections formed there, mainly too in the same spot where those three botanists had formerly collected, viz., the Bay of Islands), does not possess a single specimen of *D. aspera* from that country; and I am hence led to believe that all writers on the botany of New Zealand have mistaken a state of *D. media* for it."—L.C., Vol. III., p. 72.

616 WC: See paper "On some new and undescribed ferns" (Art. XLIX.)

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612 Scinde Island is Napier Hill today.

613 WC: "Trans. N.Z. Inst.," Vol. XI., p. 429.

12. *Polypodium billardieri*.—I have found this below at the base of the hill, growing well on, and among old drifted wood, above high water-mark, spring and flood tides, where it had become established.

13. *Polypodium serpens*.—This fern formerly grew in the groove or thicket of karaka trees (*Corynocarpus lœvigata*), which stood near the south end of the "island." I think that grove was originally a tabooed spot (probably a burial-place) of the old aborigines, who formerly dwelt here. On my arrival in 1843, and long after, the cormorants (*Graculus varius*) both roosted and built their nests thickly in those trees, so that the spot had the appearance of a small rookery. It was both a pleasing and a curious sight to see them attending assiduously to their young in the breeding season, the white breasts and bellies of the parent-birds contrasting so strongly with the dense dark green foliage of the trees. Very soon after the purchase, by the Government, of this block of land the few early white residents (and especially the military) cut down the whole grove! and also [373] nearly all the other small and few scattered trees<sup>617</sup> of the "Island," merely for the small poles, etc., for rude fencing and for tents. To some of those trees (*Ngaio=Myoporum laetum*) that grew, picturesquely fringing and overhanging the sea (of the inner harbour) at high water, I have known the Natives frequently to make fast their canoes, and, in the summer season, to bivouac under their shade. No Maori of the olden time would have cut down one of those ancient and useful trees! and, when the whites did so, they complained bitterly against it.

14. *Gymnogramme leptophylla*.—This sweet little annual fern still grows here in a few undisturbed spots on the hill-side, where, every spring, I have the pleasure of noticing and welcoming it. I first detected this fern in 1842, growing in sheltered grassy spots among scoria on the dry hills at the head of Manukau Bay, near Auckland, which is the only other locality of its habitat known to me in New Zealand.<sup>618</sup> Believing it to be a new species, I published it as *G. novæ-zealandiæ*<sup>619</sup> but, according to Dr. Hooker, it is identical with a British (Jersey) species, which is also found in Australia and Tasmania. Nevertheless there are (as I view it) striking differences between our New Zealand plant and the British one, judging from the ample descriptions, and also the many botanical plates in my possession of that species.

15. *Botrychium cicutarium*.—Fine plants of this species of fern I formerly found here on the hills, but I have not noticed any for fifteen years.

#### ADDENDUM.

I WRITE this (the fruit of study and research), for the especial benefit of future New Zealand Pteridologists.

*Gymnogramme leptophylla*. Having the good fortune to possess several drawings and dissections of the European plant, *G. leptophylla*, with ample descriptions, (viz., in Hook

617 WC: As *Entelea arborescens*, *Coprosma bauriana*, *Myoporum laetum*, and *Cordyline australis*.

618 WC: During this year (1880) it has also been found, by a member of our Institute, growing inland, west from Hawke's Bay, on the hills near the River Mohaka.

619 WC: In "Tasmanian Journal of Natural Science," Vol. II., p. 165. I find that Sir J. Hooker, in his description of this fern in his "Handbook of the N.Z. Flora," p. 383, has quoted me as having published it as a Grammittis. This, however, is an error.

and Greville, Ic. *Filicum*; Hook, British Ferns, Species *Filicum*, etc.; T. Moore, Index *Filicum*; Bentham's Brit. Flora; Beddome's Ferns, South India; with others by S. Hibberd, T. Moore, J. Smith, J. G. Baker, etc.) and having also received since writing the foregoing paper, some British specimens of *G. leptophylla* from Jersey,—I am inclined to say a little more about our New Zealand plant bearing that name, and to point out wherein it differs from the British and European one. [374]

1. In all those drawings and dissections (except in the plate of *G. leptophylla* in Beddome's South India Ferns), though made by different persons, and at widely different times, and not being mere copies from each other, there is a great common likeness—as indeed there should be; but they all show a very much larger, stouter and more leafy and many-fronded plant than our New Zealand one. Sir W.J. Hooker says of the British fern, that "its fronds are *all* bi-tri-pinnate," with their "rachises winged above"; (in his large folio drawing, with dissections in the *Icones Filicum*, the rachis is largely winged *below* also); such, however is not the case in our New Zealand plant. I have collected scores—perhaps hundreds—of the New Zealand fern (the entire little tufted plant in all its stages) in its two localities (*supra*), but I have never found one that approached in size or appearance the European one. In fact the New Zealand plant has no such outer ("barren") pinnated fronds as the British one possesses. The upright fronds of the New Zealand fern are commonly very small, often under 1 inch, and never exceeding 1½ inches, while those of the British plant generally run to 3–4 inches.

2. The New Zealand plant, including its first leaves or small early fronds, has rarely ever a barren one; its first fronds are very small, and often merely kidney-shaped with crenate edges, or small incised lobes, and when tri-lobed or parted, are simply once so, and are then differently lobed to those of the European plant, never being regularly pinnated like the barren fronds of that one; they are also generally all fertile, however small. The texture of its fronds is also more stout and herbaceous than that of the British one, which is always described as being "membranaceous."

3. The larger and more upright fronds of the New Zealand plant are not only very much smaller with fewer pinnae, but their segments are all smaller and more acute and pointed, often sharply bifid; while those of the British plant are rounded and obtuse. Their stipes are also much longer in proportion to the size of their fronds. The stipe is also of a bright red colour, glossy and deeply channelled on the upper surface; while the stipe of the British plant is always described by all authors as being "black."

4. The sori in our New Zealand plant are much more diffuse and confluent, generally covering the whole of the undersurface of the segment, never disposed in clear lines on the veins as in the British one. The veinules, too, are longer approaching nearer to the margin, and not extending beyond the sori as in the British plant. Often on the small reniform first fronds the sori are regularly disposed in almost circular spots, free, and distinct at the apices of the veinules just within the margin of the frond. The sporules also are more angular, black, glossy, and pitted, characters which are wanting in those of the British plant. [375]

Dr. Hooker, in his "Handbook," says of our New Zealand plant,—"Fronds 1–8 inches, veins dichotomous;" and in his "Flora of New Zealand" (where it is more largely described), it is also said to possess a flexuous midrib ("Costa

flexuosa"); characters, however, which I do not find pertaining to our New Zealand plant. In my first published description of it (*supra*) I said,—“Frond 6–20 lines long; veins simple, forked;” and I had plenty of specimens.

Curiously enough the first or smaller fronds of Beddome's South India plant (*l.c.*, tab. 270) more resemble some of our New Zealand ones, in simple outline and in being fertile; although the long flexuose stipe is altogether dissimilar being very much longer and more wiry. Beddome also remarks (in opposition to Sir W.J. Hooker's observation on the British plant), that,—“All my specimens have all their fronds fertile.” From its appearance however, as shown in the drawing (by no means a good one), I should infer its being distinct from the European *G. leptophylla*, though nearly allied.

There are also two or three other well-known closely allied yet distinct annual species described by Sir W.J. Hooker in his “Species Filicum,” as *G. chœrophylla* (from South America) and *G. ascensionis* (only found in the small islet of Ascension); and it seems to me that the difference between those two allowed distinct species (of which I also have both drawings and dissections in the Botanical works above mentioned, and the European *G. leptophylla* is not greater than that between it and our New Zealand plant.

*G. leptophylla* is also said to be found in Australia and Tasmania (*vide* Hook.f., Fl. Tasmania, and Bentham's Fl. Australiensis), but I have not seen a specimen nor a drawing of either of them. They may more closely correspond with the European one than ours of New Zealand do; or they may be more closely allied with ours (which I am inclined to believe from the descriptions of them), or, as it were, be intermediate. I note that Bentham says of the Australian plant, “often under two inches high,” etc., and Dr. Hooker, of the Tasmanian one, says, “Fronds an inch to a span high; pinnules 2–4 inches long; stipes and rachis usually red-brown,” etc. All this agrees more with the New Zealand plant than with the British one, excepting the span high. It seems to be excessively rare in Tasmania, having been only found by one person, and that once only, and many years ago, and in a cave.

Evidently, however, by all those distinguished European botanists, who could only have seen the Australian, Tasmanian, and New Zealand plants in their dried state, and, I fear, without their characteristic first or early fronds, which soon wither (often before the large upright ones are fully developed) by them, one synthetic description, more particularly framed [376] from the handy living British plant, serves for all. I very much fear that this systematized amalgamation of ferns from all countries, however opposite in climate and geology (although a very good thing in itself, and when not pushed to extremes), will be hereafter found to have been injuriously carried too far with not a few of our New Zealand ferns. To this subject I hope to return anon.

## 1880 On some new and undescribed New Zealand Ferns.

*Transactions of the New Zealand Institute* 13: 376–384.

[Read before the Hawke's Bay Philosophical Institute, 8th November, 1880.]

### HYMENOPHYLLUM PYGMÆUM,<sup>620</sup> n.s.

*Rhizome* capillary, creeping, spreading, much-branched and entangled, tomentose with fine red hairs; *plant* of densely matted growth; *stipe* 1–2 lines long, erect, solitary, 2–3 lines apart, sometimes two together springing from a node of the root-stock, filiform, terete, naked, sometimes bearing a few scattered minute weak reddish scales; *frond* 2 lines long including involucre, 2–4 lines broad, fan-shaped in outline, colour light green, glabrous, pinnate, generally one pair of pinnæ (very rarely two pairs, or three single ones, or a single pinna), which are petiolate, sub-opposite, and inclined upwards; *pinnæ* 1–2 lines long, membranaceous, broadly oblong, narrowest downwards, costa stout, not reaching to the margin, apex very obtuse and margin there entire, sides of pinnæ laciniate or slashed, teeth 3–5 on a side, long, acuminate, falcate, and only of the cellular substance of the pinnæ; *involucre* ob-conical, free on apex of short rhachis, 1½ lines long, 1 line broad at top, bearing a few scattered soft spinulose processes; *valves* scarcely rounded, divided less than half-way down, fimbriated with 14–17 translucent flexuose and subulate long green teeth or cilia wholly composed of cellular tissue (a truly beautiful object under a microscope); *receptacle* included, or slightly protruding in age.

*Hab.*—On cliffs, Preservation Inlet; on rocks, Resolution Island; and on rocks at the Bealey, J. D. Enys; hills round Lyttelton Harbour, Westland, coast south of Hokitika, etc.

This very minute fern (probably the smallest of the many small comforms of *Hymenophyllum*, and perhaps the smallest of all truly pinnate ferns) has been long known to me, but only through kind friends and correspondents; for, although I have received a copious supply of specimens both dried and living, I have never gathered it myself. It has always been [377] sent to me, from various sources, bearing the name of “*H. minimum*;” the correctness of which name I have ever doubted, but as I had never seen an authentic specimen or botanical drawing of that fern I did not greatly care to controvert, although I never could make my specimens to agree with the several published descriptions in my possession of *H. minimum*. Desirous however of deciding the point, I have recently obtained from Paris a copy of the Botany of the voyage of the “Astrolabe” (Admiral D'Urville) by Lesson and Richard, with its folio atlas of plates, in which that New Zealand fern is fully described by its discoverer, together with several drawings of the whole plant with dissections; and I very soon found that my conjecture was true, and that this little fern which I have here described has scarcely any affinity with A. Richard's plant *H. minimum*, which is altogether distinct, belonging to a widely different natural section of the genus *Hymenophyllum*.

Indeed, I can scarcely understand how this fern came to me so commonly, and for so long a time, too, considered as A. Richard's plant, except perhaps from its possessing a single

620 *Hymenophyllum minimum* A. Rich.

terminal involucre, its small size, and its specific name (!) which, combined, seem to have led collectors astray. (I believe that this plant has been also published, name only, in some preceding volume of the "Transactions," as the real *H. minimum!*) That plant I have never yet seen, and I almost venture to doubt of its having been again found in New Zealand since D'Urville's visit in the "Astrolabe," who discovered it.<sup>621</sup> Dr. Hooker, however, did find it at the Auckland Islands, and has given a full and particular account of it in the "Botany of the Antarctic Voyage," Vol. I., p. 103.

It has been the fate of the true *H. minimum* to be very unfortunate (like not a few others of our New Zealand ferns)! More than fifty years have passed since its discovery in New Zealand, it was soon however published at Paris to the scientific world, and well, too—both in descriptions [378] and drawings with dissections. Notwithstanding Sir W.J. Hooker, in his celebrated "Species Filicum," (published some fifteen years after), included it under *H. tunbridgense*, as a mere synonym of that plant, not even allowing it to be a variety! And more lately, Baker (of Kew), in his "Synopsis Filicum," has only tardily admitted it to a place, as a species, in the Appendix to that work. Bentham in the last volume of the "Flora Australiensis," has included it therein—but only as having been found on one spot, on Lord Howe's Island. Can it be, that this little fern (*H. minimum*), is both a littoral plant and a lover of rocky islets? All present book evidence tends that way. D'Urville may have originally found it on one of the many islets or cliffy headlands in Tasman's Bay. And here it is to be noted, in passing, that while the precise spot is given of not a few of the New Zealand plants discovered by the French on that occasion, all mention of such is omitted under the full description of this one:—*Crescit in Nova Zeelandia*—is all that is said.

Another error occurs concerning it in the "Hand Book," which it may be well to notice. (*Amicus Plato, amicus Socrates, sed magis amica veritas.*<sup>622</sup>) There it is said to have a "frond 1–2 inches high," which is further described as if possessing (several) "involucres." Baker, however, (*l. c.*) rightly describes its "frond as being  $\frac{1}{2}$ – $\frac{3}{4}$  inches long," but "with several close-spreading distinctly-toothed pinnae (?), the upper simple ligulate, the lower often forked;" and so Bentham (*l. c.*)—"frond  $\frac{1}{4}$ – $\frac{1}{2}$  inch long, deeply divided

621 WC: I am aware that Dr. Hooker, in his "Handbook of the New Zealand Flora," under *H. minimum*, says,—"Middle Island, Otago, Hector and Buchanan," but I am not certain whether that information was obtained from specimens or from a letter. Be this as it may, Dr. Hooker also says (*l.c.*),—"North Island, on roots and stumps of trees, D'Urville, etc.," which is, I think, an evident error, and it is almost certain that the French Botanists must have obtained their specimens in Tasman's Bay ("Hâvre de l'Astrolabe") on the south side of Cook Straits, where they spent some time and obtained many novelties. Moreover, who the other Botanists or collectors can possibly be (included in the "etc." of Dr. Hooker), who found the *H. minimum* (A. Richard), in the North Island, I cannot imagine. I know that the Cunninghams did not detect it (Allan, C., in the specific description of it in his "Specimens of the Botany of New Zealand," merely copying from A. Richard); and as I have already mentioned, I never found it, although I always sought it most assiduously.

622 I love Plato, I love Socrates, but I love truth more (attributed to Aristotle). Colenso here refers to his friendship with JD Hooker, author of the Handbook.

into 5–8 simple or bifid segments," adding, however, "sori, usually one only to each frond,"—as if he had seen more.

Therefore, seeing there is such great disparity between those descriptions, as well as omission of some of its more peculiar specific characters (and as *H. minimum, vera*, is still unknown to me as a New Zealand fern, and wishing to direct the attention of collectors in the Southern Island to it), I will just give (in English) the main part of A. Richard's original description of it (the original type specimens) from his botanical work (*supra*):—

"Plant very small; root creeping; frond scarcely  $\frac{1}{2}$  inch long, erect, solitary, stipitate, pinnatifid; colour lurid red; lowermost pair of segments greatly divided, obtuse, much serrated; segments folded lengthwise; involucre solitary, terminal, oblong, obtuse, semi-bivalve; margins of valves toothed (*dentatus*)."

And then the several drawings of his plant accompanying his description fully bear him out; for he has carefully given no less than five full-sized fronds, four of them singly arising from the same rhizome, and all remarkably alike, and quite symmetrical. And not only so, but from them we gain other important characters, each pinnatifid frond possessing five [379] pairs of involute segments, the lowermost pair being deeply and falcately cut nearly to the base, each of these forked segments being also deeply serrated on both sides, and having also a costa are very much recurved; all the segments have sharply-serrated margins and apices, each having 6–8 teeth on its side and three at the apex, with the midrib extending through to the margin and terminating in the central tooth, while the involucrae possesses very short, sharp, rigid teeth. The whole appearance, at first sight, strongly reminding one of a small spiny holly leaf (*Ilex aquifolium*).

#### HYMENOPHYLLUM SCABRUM var. nov. HIRTUM.<sup>623</sup>

Rhizome long, creeping, stout, densely clothed with red shaggy fine hair; stipe stout, 3–3½ inch long, thickly hirsute, also the main rhachis, with light-coloured (scarcely reddish) flexuose hairs 2–3 lines, long, flattened, and finely and regularly jointed, 20–22 joints to 1 line; frond deltoid-ovate 5–6 in. long, 5–5½ in. broad near base, curved, pinnate below, elastic, and possessing a very similar strong odour to that of *H. sanguinolentum*; every secondary rhachis, costa vein, and veinlet thickly covered below with red adpressed hairs; pinnae bi-pinnatifid, sub-opposite, falcate, thickly set on rhachis, overlapping; segments broader, larger, and more profuse than in *H. scabrum*, with their apices entire; secondary rhachises, costae, and veins prominent; involucrae broadly deltoid, finely and closely toothed, free to base, inflated, open, of a lighter coloured green than the frond. Young fronds and stipes, before unrolling, densely shaggy, with long light brown hairs.

The whole appearance of this fern is widely different from *H. scabrum (vera)*, it is not only shorter—having a dwarfed form, and is much more shaggy, but it is more dense in its vernation, and much less rigid. Its colour, too, is a lighter green.

Hab.—On the ground in the "black birch" (*Fagus solandri*) forests, east spurs of the Ruahine range, where it grows

623 Probably *Hymenophyllum scabrum* A.Rich.

pretty uniformly in thick beds, but is not often found bearing fruit.

I have long known this fern (indeed, Sir W.J. Hooker had some inferior first specimens of it, which I had sent him, when he compiled Vol. I. of his *Species Filicum* in 1846), and I have again of late—during the summers of 1879–1880—enjoyed myself among it in its native forests, and have diligently compared its living specimens with those of the larger and coarser variety, *H. scabrum*. And having also lately been studying *H. scabrum* (*vera*) of A. Richard (on seeing a plate of it with dissections in his “Botany Voyage de L’Astrolabe,” already mentioned under *H. pygmæum* (*supra*), and comparing therewith the modern descriptions of *H. scabrum*, as given by our more eminent English pteridologists, Sir W.J. Hooker, Sir Jos. Hooker, Mr. Baker, and Mr. J. Smith, in their various works on ferns), I have noticed how greatly this plant varies, not merely from the original [380] type specimen as first published by A. Richard, but also from what is recorded of it by our English botanists.

Therefore, I have concluded to bring it forward, and so make it known to botanists and also to collectors, for without doubt it would form a choice and elegant garden fern, provided the proper culture could be given it.

Dr. Hooker, in his “Handbook New Zealand Flora,” says of *H. scabrum*: “Stipes and rhachis brisily, frond dark green, involucres orbiculate, etc.;” and Mr. Baker, in his *Synopsis Filicum*, where he has placed it in the section of *Hymenophyllum*, having “glabrous fronds,” says of it: “Stipes and main rachis ciliated with long brown brisily hairs, involucres small,” etc.; and in an additional remark mentions its “hairy rhachis as forming a link between the glabrous and truly hirsute species;” and Mr. J. Smith (who had often and that for a long period had the great advantage of seeing *H. scabrum* in a living state at Kew) places it, in his most recent work on ferns (*Historia Filicum*) in the section of *Hymenophyllum*, having their “fronds glabrous and stipes and rhachis rarely pilose.” All this, however, does not agree with the characters of this very villous variety; and just so it is with the descriptions and botanical plate of *H. scabrum* by A. Richard (*supra*).

Its copious large-jointed hairs form such a striking object, even to the naked eye (while under a microscope they are most beautiful!), and together with its densely hirsute ribs, veins, and veinlets, extending all over the frond, and large light-green open involucral valves, give this variety a most striking appearance.

#### ? PTERIS LOMARIOIDES.<sup>624</sup>

*Stipe* (upper part only) 5 in. long, ? erect, straight, slender, naked, smooth, channelled above, straw coloured; *frond* 6½ in. long, 5 in. broad, symmetrical, broadly round cordate (in outline), pedate, smooth, glabrous, very membranaceous, semi-transparent, colour (dry) a light olive-green, pinnate, two pairs only, and one long terminal segment 5¼ in. long, 10 lines broad, petiolate, linear-lanceolate (together with pinnae) decreasing but little and very gradually downwards, sub- acuminate acute; *pinnae* opposite, linear-lanceolate oblique obtuse, the two pairs 1 in. apart on rhachis, upper pair sub-sessile and slightly decurrent on lower side, 3¾ in.

long, 9 lines broad; lower pair petiolate and pedate, slightly decurrent on upper side 3½ in. long, and 8 lines broad, lowermost pedate segments 1¾ in. long, 6 lines broad, subsessile, dimidiate, and curved upwards, all four pinnae inclined inwards and upwards; *veins* regular and parallel, conspicuous, fine, pretty close (about 2¼ to a line), free and simply forked with clavate apices terminating within the margin, which is slightly cartilaginous and crenulate, and closely and finely serrulate, particularly towards and at apices of pinnae [381] and terminal segment; *midrib* finely channelled above, and very conspicuous on under-surface, slightly puckered, evanescent towards apices of pinnae, very light straw coloured; *hairs* (*debris* of, remaining in lacunæ in axils and bases of pinnae) bright red-brown.? *Pteris lomarioides*, MIHI.

*Hab.*—In a wood close to the coach road near Tapuaeharuru, between Napier and Taupo.

This fern, of which (I regret to say) I possess only one barren specimen, has given me no little trouble. I obtained it in 1872, from an acquaintance who had travelled overland from Taupo to Napier, and who, on passing through a wooded spot on foot, had carelessly gathered it, and afterwards, on remounting the coach, had brought it on to Napier and gave it to me; he said its *habitat* was near Tapuaeharuru. It was quite perfect, save the lowermost part of its stipe, fresh, and in very good condition. I have subsequently, on several occasions, endeavoured to get more and better specimens, by writing to residents in that locality (even enclosing drawings), but have always failed. Until lately, I did hope to visit the locality and to seek it myself, but that hope has been some time abandoned, and therefore I now have made it known in hopes of some one finding it. Not being certain of its genus I have merely provisionally named it *Pteris lomarioides*, (from those two genera being so commonly and largely represented in New Zealand, and from its possessing the venation of the more simple species of *Pteris*, with a faint likeness in colour and form of pinnae to some species of *Lomaria*), although it may turn out to be a *Gymnogramme*.

One great peculiarity of this fern is, that it does not remind one at first sight of any other of our New Zealand ferns; although each of its pinnae in single outline and appearance slightly resembles those of some states of *Lomaria procera*, yet in habitat, texture, oblique form and venation, they widely differ, not to mention its sub-pedate figure. In analogy it seems near to some of the simpler species of *Pteris* (§ Eupteris), particularly *Pt. pellucida*, *stenophylla*, *dactylina*, and *cretica*; a plate of *Pt. cretica* in Beddome’s ferns of South India (Pl. XXXIX., the smaller right-hand figure) has a tolerably good partial resemblance, still it differs materially. Besides, in all our living plants of *Pt. cretica* (which species is pretty largely cultivated here), there are no such fronds as this one represented by Beddome. Nevertheless *Pt. cretica* is a Polynesian fern, as it is said to have been found in Fiji and the Sandwich Islands. In its simple clavate venation this fern certainly has affinity with *Nephrolepis* (a simple species of that genus having been also found at the hot lakes in the interior, not very distant from the *habitat* of this fern), but it wants the cretaceous spots of that genus. In its venation, hair, texture, and general form, it also has affinity with some species of *Gymnogramme* (§ 1. *Eugymnogramme*), particularly with *G. javanica*, which [382] is also said to have been found in the Sandwich Islands. In fine, when hereafter discovered in fruit, I have little doubt of its belonging to one of those four

624 Has been identified with *Pteris cretica* L.

mentioned genera—*Pteris*, *Lomaria*, *Nephrolepis* or *Gymnogramme*.

**DOODIA SQUARROSA,<sup>625</sup> n.s.**

*Caudex* short, thick, oblique, sub-ascending; *roots* many, stout, long, black, and wiry, densely clothed with shaggy black shining patent hairs; *plant* of densely cæspitose close, sub-erect, and squarrose habit, many fronds springing from one stock; *stipe* rather slender, 6–8 in. long, scabrous yet glossy, straight, and sub-flexuose, deeply channelled on upper-surface, clothed (especially below) with black chaffy acuminate hair-pointed scales, 3–3½ lines long and 1 line broad at base, striated and minutely reticulated, reticulations oblong, stipe sub-muricate in distant dots where the scales have fallen; *rhachis* slender, brittle, channelled throughout on upper surface, pale-coloured in the upper part, brownish in the lower, with scattered long brown tortuous weak and shrivelled scariose scales; *fronds* pale green, sub-membranaceous, glossy yet minutely roughish and harsh to feel, dry, sub-rugose and rigid; the very young circinate and undeveloped ones 2–3 in. high, clothed with long black subulate and pointed scales; *fertile fr.* lanceolate, very acuminate, 18–19 in. long, with a very long terminal segment; breadth (mid.) 4½–5¼ in., pinnate, length of pinna (mid.) 2½–2½ in., breadth 4 lines, margins of pinnae and segments sinuous, cartilaginous, sharply and irregularly spinuloso-serrate with white sharp teeth; *costæ* deeply channelled above; *pinnae* opposite, 24–28 jugate, sub-falcate, linear, broadest at base, obtuse and truncate; 4–6 *lowest pairs* sub-petiolarie, free, largely hastate, and largely auricled upwards, 10 lines long, 4–5 lines broad at base; *upper pinnae* sessile, free upwards and auricled, decurrent downwards; 3–4 pairs *uppermost pinnae* slightly pinnatifid; 5–8 pairs *lowermost pinnae* very distant, 1 inch apart on rhachis, with the distance between them gradually decreasing upwards; *terminal segment* very long, 4½–5 in. long, 3 lines broad, linear, strap-shaped, obtuse, sometimes sub-flexuose and sub-crenulated, not unfrequently auricled below and coadunate with adjoining segments, occasionally bifid at apex, each segment 8–14 lines long; *veins* as in the genus, but coarse and much produced; *sori* biserial, crowded yet not confluent (save through age in very old fronds), distant from costa, those in row nearest to costa longest, 1–2½ lines long, outer row shorter, often composed of mere dots, biserial on auricles and wings of pinnae both upwards and downwards, sub-triserial on some long terminal segments, when fully ripe dark-brown and semi-confluent; *involucræ* linear, narrow, pale-coloured, scariose, margin sub-erose, in outer row often sub-lunate and mere dots, but still the same kind of involucrum; *barren frond* much as fertile, only [383] shorter and texture a little thinner; *pinnae* linear-oblong, broader, 3–4 lines broad, obtuse; *terminal segment* somewhat shorter and broader, 4–6 lines broad.

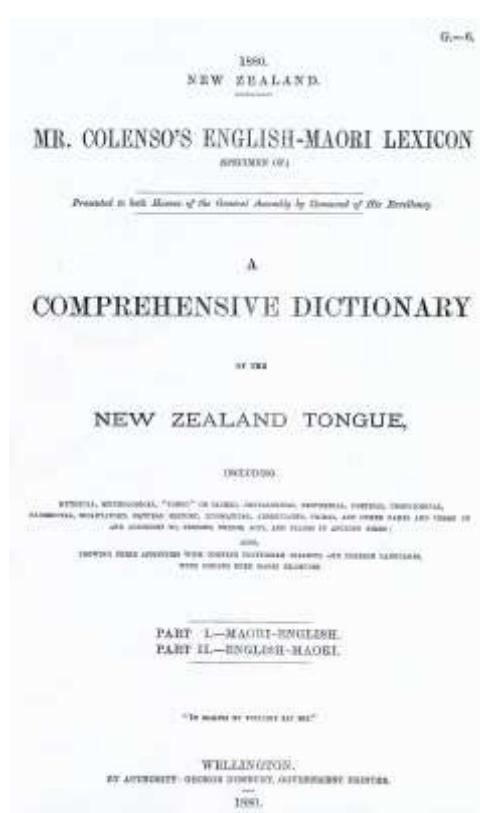
Some semi-barren fronds present a peculiar appearance; a few pinnae having single rows of scattered sori, in very small linear and semi-lunate dots, each scarcely one line long, which are again sometimes biserial and distant on the terminal segment, and on a few of the larger pinnae. If these peculiar fronds were not found growing from the same root or caudex with the larger and fertile ones, they would be set down as forming a different species or variety.

Six species of *Doodia* are very fully described by Sir W.J. Hooker in his *Species Filicum*, including those known to

him from New Zealand; I possess botanical drawings with dissections of them all, with none of which as well as with their descriptions does this plant agree. To our New Zealand “*D. caudata*,” of which, though possessing copious specimens from several botanists, Sir W.J. Hooker says, “All these from New Zealand border too closely upon *D. media* (*Sp. Fil.*, Vol. III., p. 76); it approaches in its long terminal segment and narrow (fertile) pinnae; but that Australian species, though a very much smaller plant, is said to be “pinnate nearly to the summit,” with the “sori in a single series,” its “indusia sub-lunate, stipes naked at base,” and “its rachis quite smooth,” etc. It also has pretty close affinity with *D. media*, but differs still more from this common New Zealand species. In its regular double lines of closely-compacted sori, and in their great excess, extending both upwards and downwards on the auricles and wings of its broadly-adnate pinnae (as it were *sursum currans* and *decurrens*), which give a kind of winged appearance to the rhachis, though still truly pinnate, every pinna being separate, and also in its black paleaceous stipes and scales, it seems to have affinity with *D. dives*, a Ceylon species, especially with the variety  $\beta$  *zeylanicum*, Hook., of that species, of which Sir W.J. Hooker says,—“The wings of the rachis bear sori as well as the segments and pinnae” (*l.c.*, p. 74), but the involucres in the Ceylon plant are all lunulate and broader, and the pinnae and venation different. (A fine free drawing, with dissections of this plant, is given in *Beddome's Ferns of S. India*, p. 222, all showing its very great distinctness from the Napier plant.) It seems also to be equally distinct from five newer and additional Polynesian “varieties,” briefly described by Baker in his *Synopsis Filicum* (appendix, p. 482), nearly all of which have their sori uni-serial.

I have given, I may say, some amount of extra examination at various times extending throughout many years, to this plant, having it here growing around me—as may be inferred from my full description of it; and [384] while I advance it as a distinct species, I do so with some hesitation, and mainly from the fact of its disagreeing in several important characters with those of the other described species of *Doodia*, not a few of which, I think, will hereafter prove, when examined and compared together in a living state (the only way of true comparison), to be but varieties. Sir W.J. Hooker truly enough said (though he only knew of those six species first mentioned above)—“All our species of the genus are singularly variable.” (*l. c.*, III. 75.) See, also, my remarks on the genus *Doodia*, in my preceeding Paper “On the Ferns of Scinde Island (Napier).”

**1880 Mr Colenso's English-Maori Lexicon  
(Specimen of).**  
*Appendices to the Journals, House of Representatives, G-6.*



A  
COMPREHENSIVE DICTIONARY  
OF THE  
NEW ZEALAND TONGUE.

ABBREVIATIONS AND SIGNS

I. LINGUISTIC  
1. Foreign

- P. Polynesian generally.
  - H. Hawaiian, or Sandwich Islands.
  - S. Samoan, or Navigators' Islands.
  - K. Rarotongan, or Cook Islands.
  - T. Tahitian, or Society Islands.
  - Tng. Tongan, or Friendly Islands.
  - Mq. Marquesan, or Marquesas Islands.
  - F. Fijian, or Fiji Islands.
  - B. Easter Island.
  - S.A. South American.
  - Mr. Malagasy, or Madagascar.
  - M. Malay.
2. Home.
- 1. Rarawa, or Northernmost.
  - 2. Ngapuhi, or Bay of Islands, &c.
  - 3. Waikato.
  - 4. Rotorua.
  - 5. Thames and Bay of Plenty.
  - 6. E. Cape and Poverty Bay.
  - 7. Hawke's Bay, &c.

626 A further 15 pages were added and appear in the *Appendices to the Journals, House of Representatives, 1882, G-2.*

8. Taranaki, &c.
9. Middle Island.
10. Chatham Islands.

II. LITERARY.

*Poet.* Sir G. Grey's vol. Maori Poetry, &c. Wellington, 1858.  
*Myth.* Ditto Mythology, &c. London, 1854.  
*Prov.* Ditto Proverbs, &c. Cape Town, 1857.  
*Bible.* If the new edition should be quoted, then the Book, ch., and v.

III. GRAMMATICAL

v., verb; v.n., verbal noun; adv., adverb; part., particle; adj., adjective; pr., pronoun; s., substantive, &c., &c.

IV. SUNDRY

*Obs.* Observation.  
*Syn.* Synonymous.  
*Fig.* Figurative.  
*Prim.* Primary.  
*Prov.* Proverbial.  
*Eu.* European.  
*Mod.* Modern.

I. LINGUISTIC

**A**, the first letter of the New Zealand alphabet. It has two principal sounds, —(1) long, as in the English words, *father, rather*; and (2) short, as in the English words, *man, mat*.

It is sometimes interchanged for *e*, as in *kai=kei, hai=hei, taina=teina, anei=enei*, &c.

Grammatically considered it is of first importance in the formation of words and sentences.

1. It is the termination, or last letter, of all passive verbs.
2. A, short, is prefixed to the names of persons, and to many personal pronouns, when not preceded by *ko, no, mo*, and *to*; and sometimes it is prefixed to the names of things—always when personified or bearing a person's name, as a canoe, ship, &c.—and to tribes, lands, stars,—and to names of months and days:—

Haere koe ki *a* Hemi noho ai.  
Kawea atu tenei ki *a* Tamati.  
Na, *a* Mea, *a* Henare, he tangata pal ia; *a* Tamati he tangata kino.  
Ka rere mai *a* Tainui, a ka u.  
E tangi ana *a* Hue ki *a* ia, ka ripi ripia ka toe-toea.  
“Ka whakaatu ake i *a* Kaukaumatau.—Ka rapua Kaukaumatau” (a stone earring).—*Myth.* p. 78.  
Ka te putake tenei i riro rmai ai *a* Mangakahia ki au, ko to huru.  
Kua tae mai o au tuhi, i tuhia e koe i *a* Hurae, *a* Akuhata, *a* Hepetema ano hoki.

3. A, long, is prefixed to names of persons, to living things, and to personal pronouns, to form the possessive case plural. (*See O.*)

Nga kuri *a* Hoani. Nga kai *a* te poaka.  
A maaua patu. A ratou kai.

Haere ana ratou ki te whawhai, tenei hapu tenei hapu o ratou; i a ratou ano *a* ratou pu, *a* ratou tao, *a* ratou rakau.

4. A, long, is also prefixed to names of persons, to living things, and to personal pronouns, to give the substantive or verbal noun, following or preceding, an active meaning.

I kite ano ahau i to patunga *a* Hoani i tena kuri.  
I pera hoki to ahunga iho *a* nga kauohi, me ta to tahae ua hopukia.

Katahi kit patua i te tirohanga mai *a* nga tangata.  
E kore ahau e neke i te pehangia *a* te nui, *a* te whakaheee.  
E ta, ka putake te riri *a* o matou nei tipuna ki Heretaunga.  
I nui te korero *a* te Hapuku: koia ano te riri *a* taua tangata!?

5. A, long, is also prefixed to all proper and common names of men and women, and to pronouns, whenever the noun immediately preceding is that of any article of food, or of any implement or utensil for obtaining and preparing food, or of any place or thing for storing food, or of fire and firing

for cooking food, or of any implement of war, to be used by them. (*See A, prep. of.*)

Ko te pu *a* Hoani tena.

Te patu *a* Mea.

Tenei te kete i ngaro *a* taku hoa.

Te kohua paku *a* te wahine tenei.

6. *A, long*, is prefixed to the definite article immediately preceding the noun and verbal noun, and also to possessive pronouns, to give a future meaning.

Meake ano ahau tae atu ki kona *a* nga ra o Tihema nei.

Ko *a* te tau koroi koe kite ai.

Hei *a* te rerenga o te kaipuke te mate ai. (*See A, prep. at the time of.*)

7. *A long* is also prefixed to proper and common names of men and women, and to personal pronouns, to show the natural relationship downwards.

Nga tamariki *a* Hoaai—John's own children.

Kahore heuri *a* tena tangata i toe.

I taona ai Tunui *a* Takaha na i. *Poet.* 220.

Ko wai koe? Ko au ko Tauhou. Ka ui atu ano ia, Tauhou *a* wai?

Tauhou *a* Ira; ko ia atu.

8. *A, long*, is also prefixed to adverbs of time to give them a future meaning, as *a* mua, *a* muri; and to adverbs of place, as *a* konei, *a* konaa, *a* koo, *a* reira; and to prepositions of place, as *a* ruuga, *a* raro, *a* waho, *a* roto, for intensification and emphasis; and in a very few instances to nouns, as *a* uta; possibly, in some instances, for euphony :—

Ka hoe rnatou ka hua e kore *a* uta e taea atu.

Penei hoki e rere ana, ahiahi rawa ake ka taea *a* uta,

Ka hoc raua ki te moana, a tawhiti noa, ka ngaro *a* uta.

Ina hoki, i wehea ata te moana mo nga ika, i wehea mai *a* uta mo te tangata.

**A, adv. part., when**

Ano to hari o taua tangata *a* tana kitenga i a ratou!

Hei karakia i to ratou waka *a* to putanga rmai o te hau.

Maauano e mau mai *a* to haeretanga rmai.

—and then

Naau i kii, e kore e pai; *a*, i mea atu ahau, Heoi.

Ko tenei koi noho nga iwi, *a* whakarongo ki aaua patipati.

He whakatakariri noku, moona, i haere tona ingoa, inohio, *a* tukua ana e ia tona kaha ki raro.

E peka taaua nei ki tahaki, *a* taukini-kini, *a* taurakuraku. *Poet.*, 172.

—then

Kua mutu to patai? Ae. A, maaku tenei patai.

A, aha ana koe?

## 1882 Historical Incidents and Traditions of the Olden Times, pertaining to the Maoris of the North Island, (East Coast), New Zealand; highly illustrative of their national Character, and containing many peculiar, curious, and little-known Customs and Circumstances, and Matters firmly believed by them. Now, for the first time, faithfully translated from old Maori Writings and Recitals; with explanatory Notes. PART II.<sup>627</sup>

*Transactions of the New Zealand Institute 14: 3-33.*

*[Read before the Hawke's Bay Philosophical Institute,  
9th May, and 12th June, 1881.]*

627 WC: For Part I. see "Trans. N.Z. Inst.", Vol. XIII., p. 38.

LAST year I had the honour and pleasure of reading some historical and traditional papers before you respecting the ancient Maoris of this East Coast. At that time I did so with some diffidence; for, first, I did not know how you might receive them; and, secondly, I did not know whether such papers would be published by the Parent Society. Now, however, we know, that those papers, read here and approved of by you, have been also published in the forthcoming volume (xiii.) of the "Transactions of the New Zealand Institute" and this encourages me to bring some others of the same class, and obtained from the same sources, before you, during this winter's session; only these are still more ancient, and, I think, more curious and interesting. Of course I have only very recently known of those papers having been printed. Had I earlier known of it, or of their having been approved of, I might have got some more ready during the autumn; for, I confess, the translating of some portions of them is exceedingly difficult, being written (or handed down) in language which, in some places, contains words and phrases that are very old, and have almost become obsolete.<sup>628</sup> [4]

For my own part I may again repeat (what, I believe, I have said to you before), that it is to such sources we have primarily and mainly to look for much that relates to the manners and customs of the ancient New Zealander. In those old narrations we get to know what they really were; and even then more, perhaps, from casual or incidental matters than from the main subject itself. But then such must have been related by the ancient men themselves, chiefs and priests (*tuhungas*) of the olden time, and not by the present loquacious and mendacious generation, be their position what it may,—for all such are not only grossly ignorant of the past, but are also more or less vitiated concerning the same, through their intercourse with Europeans, both willingly and unwillingly. And when, in addition to all this, what they may have to say is frequently taken down and translated by "free and easy" young interpreters,—often ignorant of the first principles of the noble Maori language, and too much inclined to dress up what they hear, as if writing a novel or romance,—the result may be easily guessed.

And here, perhaps, I may be permitted briefly to mention that—(as it is pretty well known I have collected, during my long residence among the Maoris, very much of their old history, traditions, etc.)—I have been often requested to publish, in a separate form, what I have so amassed and known; but that I have hitherto refused to do so, for I seek neither pelf nor fame (as a book-maker), but merely to relate, in plain words, what I believe to be genuine and authentic, leaving it for those who may come after me to "make the book,"—to fuse together the ores I may have laboriously sought out, and collected, and brought to the surface.

In all those historical traditions we shall find much of war,—of bloody, desolating wars, with all their hideous and savage accompaniments! far more indeed than we could wish.<sup>629</sup> But war, as Cook early and sagaciously detected,

628 WC: Particularly in the matter of charms, spells, invocations, exorcisms, etc.;—also, owing to their allusions (often by a single word) to still more ancient events, persons, (ancestors and semi-deities), and things; and to their largely abounding in ellipses and apopioses;—as I have formerly observed when on this subject.

629 WC: But the most famed and civilized nations of antiquity were, in this respect, quite as bad,—e.g., the Assyrian and Egyptian "Records," and Polybius, (who had himself seen the savage doings of the Romans), says, "when a town is taken by

was the very life and genius of the people; hence, too, they did not fear death. Not, however, but that it might have been better among them, for it will be found that, in almost all cases, their wars arose from some thoughtless or gross infringement of common rights. Yet even here we shall meet with much of extreme courtesy, and of fine feelings, which would have adorned a chivalrous European age; and that, too, in the midst of dreadful harrowing recitals of burning revenge for wrongs,—of extreme cruelty,—of great, yet simple superstition,—and of hair-breadth and marvellous escapes. [5]

Of their human sacrifices and cannibalism, which always and everywhere *nationally* accompanied their battles, I would say nothing at present; only (as I have before observed),<sup>630</sup> that I never could consider those savage customs as even approaching, in cruelty and abomination, the well-known doings of that thrice-accursed institution of the so-called Christian Church—"the Holy Inquisition!" in which Christian kings and queens, bishops, priests, and saints (!!) took their unholy and murderous parts with a zest! Indeed, I hesitate not to affirm, that all such conduct as that of the New Zealand savage towards the *dead*—and that, too, in hot blood, after a deadly hand-to-hand combat with sticks and stones,—is as nothing when fairly compared with the modern and Christian (!) modes of wholesale mangling and destroying the *living*! (it may often be innocent and unoffending women and children, in the sieges and assaults of towns!) with shells, bombs, mines, mitrailleuses, dynamite, torpedoes, etc., etc.

Those historical stories will also show much of the cool courage, stratagem, endurance, patience, etc., of the ancient Maoris. From them we shall gather not a little every-way applicable to the so-called "Spiritualists" of the present day, showing, at least, that their modern lying "mediums" deception was known long ago to the savage New Zealander! From those narrations we may also learn that such preternatural doings as that of Joshua commanding the sun to stand still,—of Jonah and the whale,—of supernatural visitants from the sky,—of wonderful achievements and miracles,—of miraculous conceptions,—of resurrections from the dead,—and even of ascensions into heaven, were not unknown to the ancient New Zealander. From them we may learn not a little of their (supposed) skill and belief in controlling and commanding the higher powers of Nature; and all this, too, both quietly and unostentatiously done and related without a single extra remark of the wonderful, or a note of admiration! And from them we shall also learn a good deal of their prayers (?), charms, spells, exorcisms, adjurations, and religious ceremonies—of their great simplicity and (may I not add?) utter uselessness. Or, rather, perhaps, not quite "utter uselessness" in one sense at least, for they, no doubt, felt strengthened in their belief, that, having followed closely in the footsteps of their forefathers, having done all that was required, they should certainly reap a corresponding benefit. And this belief would naturally re-act upon them, and stimulate them to continuous and future exertions to bring about the same, and thus would prove beneficial. In all those charms, spells, etc., we shall find (if I mistake not),

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storm by the Romans, not only human beings are massacred, but even dogs cut in two, and other animals hewn limb from limb," (x. 15.) Note, also, Saul's slaying of the Amalekites, (1 Sam. xv.)

630 WC: "Essay on the Maori Races," "Trans. N.Z. Inst." Vol. I., § 29 of Essay.

*three* things, like three golden threads, always running through them; viz., (1) their firm belief in their knowledge [6] and use of the powers of Nature; (2) their relying on their own strength and ability as able men; and (3) their often invoking their deceased ancestors to help them in times of great need; or, more frequently, encouraging themselves, at such times, with the bare recital or recollection of their ancestors' names<sup>631</sup> and prowess.

Now all this strong and common, yet (if I may so term it) quiescent belief in the supernatural or miraculous, in my opinion forms a very peculiar and characteristic trait in the old New Zealander. (I know, of course, of those miracles related in the Old Testament, and that, too, generally, in like simple manner, without note or comment). No doubt all ancient nations felt more or less the influence of the Divine in Nature, or of the power of Nature; but as they knew her but imperfectly, all remarkable or unusual phenomena appeared to them as manifestations of supernatural powers, divine or demoniac (as the case might be), or as miracles, which, while they inspired some peoples with awe, did not so act on the minds of the ancient Maori. Not but that they had plenty of signs and wonders, akin to the Roman fictions of *prodigia* and *portentæ*,<sup>632</sup> which served to announce important events; but, while they saw and observed, talked of and magnified them, they never feared them; rather ridiculed them, or treated them lightly; and even when all things turned out well and satisfactory, and in keeping with their belief in, or expectations from, those higher powers, no such thing as thanksgiving to them was ever dreamt of!

Moreover, it should also be briefly noticed, that while they laughed and mocked at earthquakes, at pealing thunder, at vivid lightnings, and at terrific storms, they exhibited great dread at merely unexpectedly seeing a small, common, and harmless lizard; at a gaseous flame suddenly shooting forth, with crackling noise, from their private fire towards them; and at a big spark bouncing therefrom in a similar direction! etc., etc.

The subject of my paper this evening will be some of the doings (and their consequences) of a powerful chief, named Uenuku,<sup>633</sup> who dwelt here on the East Coast of New Zealand, between Table and East Capes, about twenty-five generations back,<sup>634</sup> or (say) A.D. 1000,—time of our Danish [7] kings. His descendants are still residing there, who, also, rest their claims to their ancestral estates through their being such. The beginning, however, of their genealogical line goes much further back.

I may also add that this remarkable traditional story I have received in two separate narrations from two sources; and, further, that they wonderfully agree in all their main points, including, also, the charms, spells, and prayers (?) used.

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631 WC: See "Paikea's Spell," in the Story of Ruatapu and Paikea. (*infra*)

632 WC: Livy, III., 10: XLIII., etc.; Lucan, Phars., I.; Pliny, H.N., II., VIII., XVI., etc.; Plutarch, Cæs., 63.

633 WC: There were several chiefs and personages of ancient days named Uenuku; some of them bearing an additional suffix to distinguish them. One is said to have dwelt at "Hawaiki" before the so-called migration hither. (See Grey's "Polynesian Mythology," p. 123, etc.) Uenuku is, also, a name for the rainbow.

634 WC: One of the genealogies gives twenty-eight generations, (viz., three additional names). This may be owing to an early branch, commencing with the son of another wife. (See Appendix, Genealogy).

### I. STORIES CONCERNING UENUKU.

UENUKU was a very great chief of the olden time; he lived many generations back on the East Coast. One of his wives was named Takarita; she was the sister of a great chief named Tawheta, who dwelt at large towns (*pas*) of his own, called Matikotai and Porangahau,<sup>635</sup> also on the East Coast.

I shall begin my narration with the death of Takarita, the wife of Uenuku, who was killed by him because of her great offence; she having committed adultery with two men, named Tumahunuku, and Tumahurangi. Uenuku, being very powerful, not only killed her, but also her two paramours. When she was dead, Uenuku cut her open and took out her heart, and broiled it on a sacred fire, made at the foot of the carved centre-post of his own big house; the name of that house was Te-pokinga-o-terangi—the overspreading of the sky. While it was cooking at the sacred fire, kindled purposely for the solitary bit, namely, at the fire of Takarita, Uenuku recited the following spell:—

1. My fire is newly kindled by friction;
2. The land approves of it (*or* desires it);
3. Let a fire burn to eat up (a) great chief;
4. Let a fire burn to eat up (a) first-born;
5. Let a fire burn to eat up (a) principal chief (*ariki*);
6. Let a fire burn to eat up (a) priest (*tohunga*);
7. Let (it) burn;—but, by whom is the fire?
8. Let (it) burn; it is (by) Hineikukutirangi;
9. Let (it) burn; it is (by) Hineheheirangi.
10. Let (it) burn, (throughout) two long considerations of the close-quarter-fighting of the Sky.
11. Let (it) burn;—on, on, onwards!
12. My sacred fire is verily kindled by friction.
13. Above, abroad, (*or*, on the outside), towards the west;
14. Towards the west; a vengeful desolating principal chief.
15. Never shall the great chiefs be forgotten by me; never!
16. Never shall the firstborns be forgotten by me;
17. (An) eater of scraps and leavings!
18. The cooking-oven is baking slowly.
19. (I am) roasting away; naked, waiting! [8]
20. The cooking-oven is baking badly;
21. Go on, bake away the baking-oven!
22. The oven baking above!
23. The oven baking below!
24. Rush to the fight, O Space!
25. Rush to the fight, O Sky!
26. Show forth (thy) valour;
27. Show forth (thy) valour (*or*, let it be seen);
28. Return from the charge—return;
29. Cause (it) to return.—It is ended.<sup>636</sup>

635 WC: Not, however, the present Porangahau, but a place of the same name north of Table Cape.

636 WC: A few explanatory remarks on this spell are here offered:—

v. 1 & 12. All sacred fires were necessarily fresh kindled, and that by fire then and there obtained by friction.

“ 2. Meaning, in accordance with national customs and observances.

“ 3–6. Showing the high rank of the deceased lady.

“ 8, 9. By (*or* according to,—in conformity with), Hineikukutirangi, etc.

These female personages were great ones of old; Hineikukutirangi was often invoked on their going to the deep-sea-fishing. This name means the young-lady-who-drew-the-heavens- (or skies, or clouds) together, (?) to prevent the storms and squalls from bursting forth: see the charm recited over Rongoua (p. 11), line 6, and note thereon; where, I think, these

His spell finished, he fed his own son Ira with the cooked heart of his mother. Hence arose the proverb,—“Ira, devourer of the rich soft interior,”<sup>637</sup> And that same saying has descended to his offspring, namely, the tribe of Ngati Ira. [9]

When the news of her death first reached her brothers, they mourned greatly over their sister. Afterwards, Tawheta proceeded formally to enquire the particulars of the relater (of the tidings),<sup>638</sup>—“Why she was killed by him, Uenuku?” He replied, “Because she had committed adultery with two men, Tumahunuku and Tumahurangi”. Then Tawheta said, “It is all right enough, no doubt, (according to his way of thinking); nevertheless, his doings shall be repaid him to-morrow. Verily, to-morrow he himself shall be eaten by grass-hoppers! Here, near me, are his food preserves, which will be sure to draw his children and people this way, in the season; to-morrow, also, he shall be full of trouble, when he shall desire the little bit of property that is lying on the ground;<sup>639</sup> the women shall be as a cliff for the men to flee over!” And so this last word (or phrase) became a proverbial saying; and for a long time Tawheta dwelt quietly, brooding over his anger.

Now Uenuku did not think at all of his cruel killing (*kohuru*), or of the possible consequences. Another year came round, and Uenuku had forgotten all about his murder. So he sent his children and people to obtain the fruit (*or* product) of his preserves at Matikotai, and at Porangahau. They went, a large number, both men and women, 70 in

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two personages are also alluded to: see, also, a similar sacrifice made by Uenuku (p. 15), and note the like names of his two mysterious ceremonial garments.

“ 10, 24–29. Celestial signs, of warring clouds, etc., are here referred to, as finally denoting approval. See Notes 2 and 4 to Paikea’s spell (p. 21).

“ 13, 14. “Towards the west,”—the quarter of the setting sun, and of death, etc. See Essay on the Maori Races, “Trans. N.Z. Inst.” Vol. I., § 39.

“ 15, 16. Indicating his being a strenuous upholder of their ancient traditions, customs, etc.

“ 17. As said by the hero Whakatau,—War-song, 3, p. 68, “Trans. N.Z. Inst.” Vol. XIII.,—and always meaning the opposite.

“ 22, 23. May mean oneness of action; i.e. what I am doing here on earth is also now being done in the sky.

637 WC: The word used here is a curious and uncommon one, especially in this sense, and, as such, it is almost obsolete. Primarily it denotes the soft, prized, central parts of the Maori gourd (hue), of a water-melon, etc., though it has several other allied root-meanings.

638 WC: Heralds, or messengers, on such high occasions, acted in a very careful and formal ceremonious manner, and only (at first) answered the questions put to them by the chief of the place. Instances have been known where they have been severely beaten, and wounded, and even killed! at the first outbursts of grief and passion, for their sudden and abrupt relation of bad tidings. Hence, such news was almost invariably carried by a relative or a chief.

639 WC: By “the property (*taonga*) lying on the ground,” I understand the fruits of the karaka trees, which were rigidly preserved, and were gathered up in large quantities to be stored for food in the late autumn season. (See “Trans. N.Z. Inst.” Vol. XIII., p. 25, last paragraph). The close of Tawheta’s passionate sentence may have reference to his slain sister, or to the women who would be sure to come thither in the karaka gathering party. At all events, the meaning is,—a full, stern, and dreadful revenge!

all;<sup>640</sup> and on their arrival at Tawheta's town (*pa*), he took them unawares and killed them, they being all unarmed and unapprehensive. Hence arose the deadly feud between Uenuku and Tawheta. Four of Uenuku's sons were slain on this occasion, namely, Maputukiterangi, Ropanui, Mahinaiteata, and Whirhingaiterangi, while the fifth, named Rongouaroa, hardly escaped with his life, being the only survivor of the whole party. He, however, had been severely wounded; his skull was hacked and broken in, and he was left for dead by the foe, on the ground among the others. Tawheta and his people, [10] after their cruel slaughter, went into their *pa* to eat their food; it was then that Rongouaroa came to himself, and opening his eyes and looking around, he saw his brothers and companions all dead on the ground; on seeing this he summoned all his remaining strength, and crawled away and hid himself among some thick bushes close by. While there, he heard them (Tawheta and his people) vaunting loudly over their doings, and Tawheta said, "Tomorrow, early, we will all go to Uenuku's *pa*; we will deceive him, and kill him, too, that he and his may all die together." Their meal and talk over, they all came out to drag the bodies of the slain into the town (*pa*), to cut them up (for food). When it was night, Rongouaroa crept out of his hiding-place and crawled into one of their large canoes, and stowed himself snugly away in the forehold (under the nose of the canoe); and this was his charm which he uttered for his safe concealment:—

"Tu! overspread the face of the sky, that (I) may be hidden; let their eyes be dazzled (*or* flash waveringly) in looking at the stars, and at the moon, and at the light."

And so, sure enough, he was hidden securely; and he, having uttered his charm, laid himself quietly down.<sup>641</sup>

Early in the morning the cajoling party was on the move, to go and kill Uenuku. They quickly put their things into their canoes, and paddled away, with vigour, to Uenuku's town (*pa*). Arriving there, they hastened to disembark and to drag up their canoes on the beach, when they all proceeded quietly into Uenuku's *pa*, amid the wavings, and shouts, and cries of welcome of Uenuku's people,—"Come hither, come hither, O ye most welcome stranger-visitors!" And so the visiting party went into the *pa*, and entered the big reception house of the chief and sat down. The people of the place were now all very busy in preparing a plentiful meal for their unexpected visitors; the cooking-fires and ovens were everywhere lighted, and great preparations were being made, for Uenuku and his people supposed them to have come with good intentions only, and, therefore, they were most welcome; but it was not so, as it soon appeared, for they had come to murder Uenuku, and also to eat him, which they had thought to bring to pass through their deceit. While the food was preparing, Uenuku arose, in the large open space before the house, to address his visitors; and thus he began: "Come hither, welcome hither; art thou indeed Tawheta?"<sup>642</sup> [11] which Tawheta interrupted (from

within) by exclaiming, "Thou thyself! thou thyself!" Then Uenuku said, "Welcome hither! Dids't thou come hither from our children and young people (leaving them well)?" To this, Tawheta replied,—"They are all there enjoying themselves at their usual games of play; spinning tops, flying kites, making cats' cradles, darting reeds, and all manner of games."<sup>643</sup>

Now it came to pass that, when all those visitors had entered the *pa*, the wounded man, Rongouaroa, had managed, though with great difficulty, to get out of the canoe in which he had been hidden, and to crawl a little way on to a bush of cutting-grass, where he lay down in the sun. Now the food for the visitors having been deposited in the ovens, and covered over with stones and earth to be cooked, the women engaged therein went outside to gather green leaves of shrubs and flax (*Phormium*) and sedges, on which to place the food when cooked for their visitors; and so they got to the place where Rongouaroa was lying with his smashed head! On seeing him, and hearing in a few faint words his tale, they soon went back to the *pa*, and calling Uenuku aside, told him, "Master! master! it is all a false story (*or* supposition); they are come hither with a different design. The whole of our people have been killed by Tawheta; one only escaped, Rongouaroa! They are come to cajole and destroy thee!" On hearing this, Uenuku demanded, "Where is that survivor?" "Oh! there he is, lying down outside on the tuft of cutting-grass (*toetoe*), with his head all broken and smashed with a club!" Then Uenuku said, "Fetch him, lead him hither into the *pa*." So he was fetched; but, first of all, he was led to the sacred place (*tuaahu*) close by, where the charms, and recitals, and all proper sacred ceremonies were performed over him, including the feeding the demon with his blood, and the hanging-up of his blood in that spot; and this was the charm which was recited for him:—

1. Provoking irascible sinew, striving (to) kill!
2. Hither is come the one (they) sought to murder.
3. Verily thy own skilful priests (are here):
4. Thou and I together indeed! (as one).
5. Thy wound is sacred;
6. The celebrated first-born priestesses shall cause the lips of the wounds to incline inwardly towards each other;
7. Of (*or* by) the evening, lo! thy wound shall become as nothing!
8. The stone axe (which caused it) was verily (as) the strong tide rushing on to the shores, and tearing up the beds of shell-fish.
9. Striving, provoking sinew! eager after food for (their) baking [12]
10. The wounding, indeed, of the man who courageously enraged the demon!
11. Thy internal parts are all opened to view!
12. Verily, just as the stirring up of the big fire burning in the court-yard of a *pa*!
13. But, lo! thou and I together (are as one).<sup>644</sup>

640 WC: "70" (passim) always means a large and fully complete number for that particular purpose; sometimes, when a very large number was required, it would be twice 70 = 140; and, also, 170; but always so as to take in the 7 unit.

641 WC: "Quietly down:"—Notice here the very great influence of Rongoua's firm faith in his simple charm! (See the story of Houmea, (*infra*), p. 26). It was a desperate step to take, but his only possible chance of saving his people from destruction.

642 WC: Uenuku saying, "Art thou," etc., meaning, Is it possible that Tawheta is come at last to see me! Tawheta, in reply, saying,

"Thou thyself!" meaning, Thou alone by thy conduct wert the cause of our being so long estranged from each other.

643 WC: This second interjected reply of Tawheta (who was still within the house, and who, according to etiquette, had no need then to speak), was, I think, mainly made to amuse his own party there with him.

644 WC: Of this charm, verses 4 and 13 are used to infuse hope and strength, and to assure the unity of the powerful and the weak. (See Paikea's spell, (*infra*) v. 5.) v. 6 no doubt refers to the two female personages mentioned before in Uenuku's spell, (*supra*), vv. 8 and 9—see note there; v. 8 is a beautiful and strongly

This done, Rongouaroa was taken into the *pa*; that he might be shown publicly to Tawheta and his party.<sup>645</sup> Now Uenuku had returned to his oratory, keeping his son, Rongouaroa, out of sight, on one side behind his back; the visiting party (according to strict custom) being all within the big house, while the chief of the *pa*, Uenuku, was outside making his speech to them; moreover, they were tired with their paddling and wanted their morning's meal; and thus Uenuku recommenced his address:—"Come hither, come hither; thou art indeed Tawheta; yes, thou thyself (come at last to see me). Thou art indeed come hither from our children; but are they living, or are they *dead*?"<sup>646</sup> On hearing this, Tawheta bounded out from within the house, and said, "And who indeed is that demon from the sky who is able to kill our children?" Then it was that Uenuku said to Tawheta, "Our children are slain, killed by thee! behold, here is the only survivor!" at the same time bringing forward Rongouaroa, and making him to stand in the open space before the door of the house, so that he might be fully seen by all those within it. On hearing those words of Uenuku, and seeing Rongouaroa, the whole party were seized with panic fear, and would have instantly fled, or have endeavoured to do so,—and at this time they could all have been very easily slain by Uenuku, but it was owing to his noble disposition that they were not. So he kept them until the food for [13] them was cooked and properly served up and eaten, and then they might depart, saying to them, "Do not fear anything; remain quietly; let the food which has been purposely prepared for you be well and properly cooked and served; then eat it and depart." Therefore they did so; and when their meal was over, they left the *pa* in silence, and dragged down their canoes to the sea. While doing this, Uenuku's people were again very desirous to fall upon them and kill them, but Uenuku restrained them, and so they escaped without harm.<sup>647</sup> As, however, they were

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expressive metaphor tersely given in the original; v. 10 the "demon," = *atua*, foe; vv. 11, 12, "internal parts,"—i.e. inner parts of the head; a severely fractured skull was common in the desperate hand-to-hand fights and massacres of old, where heavy clubs and stone axes were the weapons, and not unfrequently the sufferer recovered. (See Proverbs 155, 156, "Trans. N.Z. Inst." Vol. XII., p. 137.

645 WC: There could be no fear, on the part of Uenuku, that Tawheta, or any of his party, would come out of the reception house while he was absent, as such would be against all custom, etc.

646 WC: "Are they living, or are they *dead*?" Note here the last word! This Tawheta well understood, although he could only then have supposed that Uenuku entertained a suspicion of something evil,—as from a dream, warning, omen, etc.; for, according to correct Maori idiom and syntax, that saying of Uenuku should have been reversed (if spoken at all?)—"are they *dead*, or are they *living*?" —which would have had a very different meaning, and Tawheta would have remained quietly in the house of reception. Hence, Tawheta broke the rules of etiquette, and bounded forth boldly to meet the implied and concealed charge against him.

647 WC: This highly chivalrous (?) conduct,—or, rather, the noble trait in their character, never to allow the open public rites of hospitality to be infringed, (Uenuku, too, having loudly welcomed them into his village, or fort),—was sometimes strikingly exhibited. The Rev. S. Marsden of Paramatta, informed me (in 1834) of a notable instance which had taken place while some head New Zealand chiefs were staying there at his house. It happened that two of them had come to Sydney by different ships, one was from the Thames, and one from the Bay of Islands,—two tribes who were then at deadly feud in their own country, and so it would have been between those two

leaving the shore, Uenuku called out to Tawheta,—"Depart peaceably, O Tawheta! ere long, I, also, shall go thither to our children; thou art not a warrior, but an evil-doer." (*Lit.* Thou slayest not (thy foe) openly and manfully, but evilly and fraudulently). To this Tawheta replied,—"By what possible means indeed cans't thou venture to go thither; to the home of the many, of the multitude, of the numberless?"<sup>648</sup> On hearing this, Uenuku rejoined,— "Go away, depart; soon I shall be going thither; thou wilt not escape me; to-morrow thou shalt be devoured by grasshoppers! thy bravery in battle is slippery; go away, depart!" These were the last parting words of Uenuku, and Tawheta and his party returned to their own place.

After this, Uenuku stirred up all his people to get ready his fighting canoes; so they were all newly caulked, and put together in order, and got ready, and launched to go to war. Then it was that one of his brave fighting [14] men, a chief named Whatiua, got up and made an oration against Uenuku going at once by sea to fight, saying,— "This is my opinion, first let the *kumara* and the *karaka* be ripe,<sup>649</sup> then do thou go by sea; but I and my party will go at once by land; we (my party) will first engage the enemy, and break off the tips of the branchlets of (the revenge for) our sad loss; tomorrow morning we will start." They did so; and as they were leaving the *pa*, Uenuku called out to them,— "Listen, friends; this is my word to you, if you succeed in capturing Poumatangatanga,<sup>650</sup> let her live, to become a wife for me." So the war-party, 70 in number, left on their march. They went away inland up over the high hills and kept on until night-fall, when they halted and slept;<sup>651</sup> at break of day they recommenced their march, and again halted at night as before to sleep; the third morning, at daybreak, they resumed their march, and kept on until they came within sight of Rangikapiti, when they again halted until it was dark. In the night they went stealthily forward and surrounded the big house of that place; the people there kept

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chiefs on their suddenly and unexpectedly meeting there; but the one said to the other,— "Here, thou and I will dwell quietly, and eat, every day, at the same table together; but when we return to New Zealand I will attack thy fort, and will kill and eat thee." and all this was carried out to the very letter. It was from the utter want of this feeling on the part of the British (in the Maori estimation), that the early colonists were so greatly twitted by the Maoris during the war of 1860-6; notably by the chief Renata Te Kawepo, in his upbraiding letter to the first Superintendent of the Province of Hawke's Bay. (See, also, "Essay on the Maori Races," "Trans. N.Z. Inst." Vol. I., § 34, end.

648 WC: This sentence deserves to be more particularly noticed:—"Ki te kaainga o tini, o te mano o te rororo, o tini o te hakuturi:" lit. to the dwelling place of (the) many, of the numberless of the ants, of (the) multitude of the imps (elves, or fairies). A curious figurative sentence, not however uncommon nor untruthful in the olden time, showing the very great number of his people. (See Houmea, (*infra*), p. 27, and note there). The same simile of ants, to express a great number, is also used by the Greek and Roman poets: Theoc. Id. XV., 45. Virg. *AEn.* IV., 402.

649 WC: That is, in the autumn, when the sea would be calm.

650 WC: Tawheta's daughter: a common practice. (See Vol. XIII., "Trans. N.Z. Inst." p. 40.

651 WC: War-parties by land generally went forth by untrodden paths, forming a trail of their own, and often a circuitous one; their object being always to reach the place they were going to attack without being perceived, or even suspected, and to carefully avoid treading on, or walking over, a *kumara* root ceremonially deposited in the common path. (See below, Art II, "Contributions towards a better Knowledge of the Maori Race," part IV., *Kumara*).

watch also by night but badly. On there arrival there they found that the demon (*atua*) had joined with the people in the house, and that the priest (*tohunga*), whose name was Hapopo, was encouraging his people by his questioning the demon as to the expected war-party, and they on the outside overheard their conversation going on between them. Hapopo, the priest, said to the demon,—“Speak, tell me, is the war-party at hand? for we are here dwelling in great fear, not daring to sleep soundly at night.” The demon, whose name was Te Kanawa, replied to him,—“No, there is no war-party near; nothing of the kind; let us dwell together quietly, even as the ancient ones are, there far off away up in the sky.”<sup>652</sup> Those were the words spoken by the demon through the medium, whose name was Kahurangi. Hapopo, however, again asked, stirring (him) up, saying—“Tell me, sir, is not the war-party at hand?” When (he) again replied, “Not a single bit of a war-party, respected sir; no fighting whatever, great sir, will come hither against you; rest quietly.” All this conversation between those [15] two, the demon and the priest, was overheard by the armed war-party, who were outside listening. Early in the morning, at break of day, they assaulted and rushed the big house from all sides. Great was the slaughter of Tawheta’s people, he, however, escaped from within the big house; they pursued him, but he got clear off; whence arose this proverbial saying;—“Through flight only was Tawheta saved.” The priest, Hapopo, they dragged outside, and they killed him there; his last word was, “Lying and deceiving demon! thou gettest clear off, leaving the trouble with Hapopo.” Those words have ever since been used and handed down as a proverb. Paimahutanga<sup>653</sup> (Tawheta’s daughter) was the only one whom Whatiua’s band made prisoner and rescued from that great slaughter. The victors baked the slain in ovens, and feasted on them; some portions of their bodies were also carried away with them to their own *pa*. Thus was fully avenged the death of Maputukiterangi, of Mahinaiteata, of Ropanui, of Whiwhingaiterangi, of Rongouiaroa, of Hotukura, of Inangatapukitewhao, of Rangiwhetu, and their companions, in that sad massacre by Tawheta. Those whose names are here given were all chiefs who fell on that occasion. On the return of that war-party to their home they handed over to Uenuku the daughter of Tawheta, Paimahutanga, to become his wife, and Uenuku took her to wife. And so this first assault and carnage ends here; this exterminating slaughter was accomplished by Whatiuatakamarae.<sup>654</sup>

After this was over, Uenuku, still thirsting for revenge for his many murdered children and people, commanded a war expedition to be got ready, that he might himself go and fight with Tawheta. So the warriors got themselves ready; the war canoes were dragged down and fitted up and launched, when Uenuku ordered that each canoe should also

652 WC: As the gods were (according to the ancient Greek mythology) up on Olympus. I have studied to mark the great difference in the modes of address between the priest and the demon. (See, also, between Uenuku and his son Ruatapu, p. 18)—a matter much too little attended to in translations.

653 WC: Notice, here, the change of her name, according to custom; and, at the same time, a play upon her former one as to its sound; her new name being also one of good omen,—lit. good-healing-of-the-sore, or wound.

654 WC: Here is also an addition made to the name of the leader of that band,—lit. prepared (or brought to pass) in the meeting in the open court,—which may have taken its origin from the prudent counsel he had given to Uenuku, which was also adopted, and led to victory.

be provided with extra large stones (as anchors) and long ropes; and when this was also done, and all were ready, they set forth. On this occasion Uenuku took with him two celebrated garments of his ancestor Tumatauenga<sup>655</sup> in order to become a defensive armour for him, that is for Uenuku; those famed garments were named Te Rangituitui and Te Rangikahupapa,<sup>656</sup> and they [16] had ever been taken great care of by the grandson<sup>657</sup> of Tumatauenga, Uenuku. The war expedition paddled away until they came to Matikotai and Porangahau, where was Tawheta’s fort, or war *pa*; there, at Uenuku’s command, all the canoes anchored just outside the swell of the waves, each being provided with stone anchors and long ropes for that purpose; this done they paddled in towards the shore. Then it was that Tawheta and his people, who were there assembled in great numbers; rushed down to meet Uenuku’s party, and even waded out into the sea to fight them, and to oppose their landing! when Putuakiterangi, one of Tawheta’s braves, was seized by Uenuku’s party, dragged into the canoe and carried off! Uenuku giving the order to draw all the canoes outside by their long ropes. There, according to custom, they killed their *first* prisoner, cut him open, and tore out his heart;<sup>658</sup> then they made a sacred fire by friction, and when it was fully blazing they roasted the heart on the fire, and when it was cooked, they covered over both the heart and the sacred fire with the two garments already mentioned,—Te Rangituitui and Te Rangikahupapa. Then it was that Uenuku, standing up in his canoe, called on the mist from the summits of (the mountain) Tirikawa, saying, “Attend! fall down and encompass; fall down and cover up!” When, lo! it suddenly became very dark indeed, and the stars were seen in the sky. Uenuku and his people listened, and lo! Tawheta and his people were heard fighting among themselves in the darkness, and killing each other! the curses and the groans were heard, also the hollow blows on each other’s heads from their clubs; not one of them, however, was struck by Uenuku’s party, who were still in

655 WC: See “Contributions towards a better Knowledge of the Maori Eace;” Part TV.,—Legends concerning the Kumara Plant—Art. II (infra).

656 WC: Lit. the Sky-stitched (together), and the Sky-joined, or banded, or rafted (together); and, viewing the Sky as a personage, this may be taken in an active sense. See, also, Uenuku’s first charm, vv. 10, 24–29 (supra).

657 WC: The word mokopuna may mean, great great grandson, etc., or lineal descendant.

658 WC: A very similar proceeding to the first sacrifice, mentioned in the beginning of this story, only with different ceremonies. This custom was of universal application among the New Zealanders; hence, in war, it was of great importance (on either side) to seize the first prisoner for this purpose. Uenuku seems to have laid his plan well, by anchoring his canoes in the way he did, to bring the desired end so readily to pass. The student of Ancient History will know how extensively this custom was practised, both in the Old World and New (Mexico); the two things seem generally to have gone together,—the bloody offering (or the life), and the offering by fire; blood being, at all times and in every zone, supposed to be fitted to appease the gods! Sir Walter Scott has well worked upon this ancient belief in his poem of “The Lady of the Lake,” Canto V.,—the combat between FitzJames and Roderick  
—“Which spills the foremost foeman’s life, That party conquers in the strife.”

It is even said, that the Highlanders under Montrose were so deeply imbued with this notion, that, on the morning of the battle of Tippermoor, they murdered a defenceless herdsman, whom they found in the fields, merely to secure an advantage of so much consequence to their party.

their canoes; they did it all themselves. After [17] some time, Uenuku again called on his preternatural power (*atua*), the mist on the mountain—that is, to the mist on Tirikawa, saying: “Clear up!” And lo! it was all clear and bright day. Then the war party looked out from their canoes, and found that many of Tawheta’s people were still alive. On this Uenuku again commanded the mist on Tirikawa, saying: “Fall on! cover up!” when, as before, it was again as dark as night, and Tawheta’s people began afresh to fight and slay each other with greater fury than before. By-and-by Uenuku again called on the mist, saying: “The mist of Tirikawa, break up, clear up, instantly!” And lo! it was again clear daylight. Then Uenuku, thinking they had destroyed each other, pulled off the garments from the roasted heart and sacred fire, and lo! on looking at the sea they saw it was covered with floating corpses and red with the blood of the many slain; deeply red all around them with blood! Three times did Uenuku call on his demons, before that his foes were destroyed. Then Uenuku and his party paddled their canoes to the shore, and landing, killed the few survivors whom they found there on the beach. Tawheta, however, and his remaining men, rallied, and came on, and renewed the fight, which was desperately taken up by Uenuku and his party, by whom Tawheta himself was also killed; but the great multitude of his people died by their own hands, and not by Uenuku’s party. The fighting in the sea was named, “The lengthened day;” “the day (of) two sunsets;” and, again, because of the great amount of the blood of man in the sea, it was also called, “The sea of loathsome water;” and the name given to the last battle on land, in which Tawheta was slain, was, “The rising tide.” These were the bloody battles of Uenuku; these were the desolations of Uenuku. The victors cooked and cooked human flesh day after day, and all day, but they could not cook all the food, so it was left and wasted because it became rotten. Here ends the relation of those fightings of Uenuku the man-eater; the evil murders of his children, however, were all sorely and fully avenged. Uenuku having taken Paimahutanga to wife, she bore him a son, whose name was Ruatapu, whose doings shall now also be narrated.

## II. THE STORY OF RUATAPU AND PAIKEA.

MANY years after those fightings Uenuku got a large canoe made; Haeora was the name of the skilful man who made it; and Te Huripureiata was the name of that canoe. When the canoe was built and finished, it was painted red, and fully ornamented with pigeon’s feathers, and all its many adornments. All this took a long time. Then it was that Uenuku ordered his sons, and the sons of other chiefs, to assemble, in order that the hair of their heads might be combed and anointed and neatly tied up in a knot on the crown, and ornamented with a high dress comb stuck in behind (worn [18] only by chiefs), so as to be regular and look beautiful,<sup>659</sup> that they might all go together and paddle the new canoe out on the sea. Uenuku himself performed

659 WC: Plenty of patterns of their hair so adorned are given in the plates of Cook’s “Voyages,” and in Parkinson’s “Journal,”—passim. (See Proverb, No. 130, “Trans. N.Z. Inst.,” Vol. XII., p. 133). When their heads were thus dressed they did not lay them down on pillows of any kind for several nights, lest they should disarrange them, but managed accordingly. This curious practice was also largely followed by other Polynesians. So in Africa, and, also, very anciently in Europe. (See Keller’s “Lake Dwellings of Switzerland,” pp. 175, 501, 565).

this work of preparing and dressing and tying-up their hair.<sup>660</sup> Those young men were 70 in number, all told, and Uenuku finished with Kahutiaterangi. All the 70 were fine able young men; there was not a boy among them. When all were done, Ruatapu called out to his father,—“O, honoured sir, see! tie up and dress my hair also.” Uenuku replied to Ruatapu,—“Wherever shall a dress-comb be found for thy hair?” Ruatapu rejoined,—“Why not use one of those combs there by these?” Then Uenuku said,—“Why dost thou not ornament thy hair with one of the combs of thy elder brothers?” On hearing that, Ruatapu cried out,—“O noble sir, O noble sir, I was supposing that I was indeed thine own (son)! but now I perceive that I am not thine!” Then his father said to him,—“O, sir,<sup>661</sup> thou art indeed verily my own (son); but a son of little consequence, an offspring of inferior birth.” (meaning, that his mother was of no rank, being only a slave saved alive in war).<sup>662</sup> At this saying of [19] Uenuku, Ruatapu was completely overcome with shame, and his whole heart was filled with grief and pain, and, loudly lamenting, he went away to the place where the canoe was, planning in his mind how he should best accomplish the murder of Uenuku’s favourite sons, his elder brothers. He soon hit upon a plan; he got a stone chisel and he worked away with it at the bottom of the new canoe, until he had cut a hole through, which, when done, he plugged up and hid with wooden chips and scrapings, so that it should not be seen. Then he went back into the town, but he would not eat any food, for his heart was still deeply grieved at the lowering words which his father had used respecting him. The next morning early Ruatapu went and aroused and brought together the men of the place to drag the new canoe down to the sea. They all came and she was soon afloat, and then those young chiefs, 70 in number, who had been already prepared for that duty, entered on board of the canoe, he himself taking care that no boys<sup>663</sup> embarked

660 WC: This ceremony was always performed by a chief of rank, or by a priest (tohunga); Uenuku was both; the head being pre-eminently sacred (tapu), and never to be touched save by a tapu person.

661 WC: I have sought to keep up in a translation the great difference in the modes of address here used between the father and the son; (see, also, p. 14, and the note there).

662 WC: In this dialogue three things are to be noticed: 1. Uenuku’s quiet way of giving a gentle hint to his son, which tends to show that hitherto, throughout childhood and youth, no such great distinction had yet been made. 2. Ruatapu ought to have understood his father’s meaning (see a similar mode of speaking, “Trans. N.Z. Inst.,” Vol. XIII., p. 42, and note there); he knew, as well as his father, that he could not possibly use one of his elder brothers’ combs, as all were tapu, and each one strictly confined to its owner’s own private use. 3. Uenuku’s last words were very bitter and galling to the young man, and, no doubt, were spoken openly before all; and as they were spoken in highly figurative language I give them here in the original, with a strictly literal translation and full explanation:—“Ehika, naku tonu koe; he tama meamea koe nahaku; he moenga rau-kawakawa, he moenga hau!” lit. “O, sir, thou art indeed my own (son); thou art a son of inferior rank begotten by me; a begetting—or sleeping, or cohabiting,—among the leaves and branches of the strong-smelling kawakawa shrub,—a begetting, etc.—out of doors in the high wind.” The strong smell of the kawakawa (*Piper excelsum*) was particularly unpleasant to the New Zealanders; the whole also meaning, that Uenuku’s taking Ruatapu’s mother to wife was done without any festivities,—without any gifts of fine-woven mats for bedding,—and without a bride’s house and other formalities. (See “Trans. N.Z. Inst.,” Vol. XIII., p. 45, bottom).

663 WC: The word may mean—younger sons.

with them, for some who came to do so he returned to their home. The canoe being well-manned with smart paddlers, and all being ready, away they paddled; Ruatapu himself going with them, seating himself in his own place on board, and keeping the heel of his foot firmly fixed on the hole which he had bored in her bottom. They paddled a very long way out to sea, when Ruatapu removed his foot from the hole, and the water rushed in. On seeing the water in the bottom of the canoe they cried out, "We shall be upset! turn her round to the shore!" but Ruatapu again fixing his heel on the hole, and also baling out the water, the canoe was soon free from it. They still paddled away further out, when some said, "Let us now return, for we have paddled to a very great distance." On hearing this, Ruatapu answered, "We will soon return; let us first go a little further out." So away they paddled, until they had got quite out of sight of land; then he again removed his heel from the hole, and the water rushed in! All immediately called out, "Where is the baler? hasten; bale out the water; we are lost!" But Ruatapu had hidden the baler; and soon the canoe was filled with water, and was upset.<sup>664</sup> Then Ruatapu made after his brothers, and quickly drowned several of them by plunging them under. Having done so, and seeing Paikea still swimming, he followed hard after him to drown him also; but Paikea repeatedly evaded him. At last Ruatapu said to Paikea, "Which of us two shall carry the tidings of our disaster to land?" And Paikea replied, "I will, for I can do it; for I am also a son of (*or* descended from) the sea." And this was both the reason of his so saying and of his escaping drowning,—Paikea being descended from

Rongomaitahanui, who was also descended from Te Petipeti, and [20] Te Rangahua. Then Ruatapu cried out, "Go thou, swim away to land; and note well, if I am lost here, then thou wilt surely know that I am not descended from our father; but if I escape from this calamity, then, verily, I am from our father. Go thou on; let the crowded parties of the summer season ever remember me, that I am also there, (I) shall not be hidden. When the squid and the jelly-fishes shall have reached the sandy beaches (in the summer season), then look out, I am but a little way behind them, going also towards the shore. Go on, swim away, proceed thou to the land; those who should be the survivors from this wreck (are) become as a pile of slain in a day of bloody battle. This is another word of mine to thee, Let Kahutuanui have the striking-up of the song, so that when (ye), the ample broad-chested, may be sitting closely together in a row by the side of the fire,<sup>665</sup> it shall be sung in parts,—in fruitful seasons and in unfruitful ones,—at the times of assembling together in companies, and at the times of living separately (in families); through this I shall be ever remembered." Then Paikea said, "The tidings of our calamity shall be safely carried by me to our town, for I am verily descended from (those of) the sea,—Te Petipeti, Te Rangahua, and Te Aihumoana"<sup>666</sup> being my ancestors." Here

664 WC: See proverb, No. 181, "Trans. N.Z. Inst.", Vol. XII., p. 140.

665 WC: For the common regular diversions of the evening, when the fires were lighted in their large houses.

666 WC: Paikea has now twice firmly asserted his descent from (beings of) the sea,—and he is not the first of the ancient Maori heroes who has done so. Of those four names of his ancestors here given by him, all are found in the Genealogical Roll (appended); but the first (Rongomaitahanui) and the last (Te Aihumoana) are, also, mythically known as ancient sea-demons (*atua*), and, so far, pre-historical. Paikea is also the proper name of a species of whale. I saw one about 34 years ago, which had

Ruatapu gave his last parting words to Paikea, "Go on, swim away to land, to the dear old home!" and so saying he held up his paddle.<sup>667</sup> So Paikea proceeded on, swimming towards land, reciting as he went his powerful spell; and this was it:—

1. "Now shall be shown, now revealed, the vigour of the trembling heart; now shall be known the force of the anxious heart; now shall be seen the strength of the fluttering weak female heart."<sup>668</sup> [21]
2. The big fish of the sea swims fleetly through strenuous exertion; blowing forth the blasts of sea-water from (its) nostrils; the big fish is lifted above the waters.
3. Space<sup>669</sup> makes (it) buoyant; Sky upheaves (it) above the swell of Ocean.
4. Now, rushing forwards, a steep descent; anon (as if) climbing the fence of a fort! now a roughening squall of wind comes on; anon, as a bird's feather borne before it!
5. Ha! ha! thy heart (even as, *or* one with) my heart.<sup>670</sup>
6. Now the great enduring courageous heart of (the descendant from the) Sky, shall make itself to emerge through all difficulties and dangers to the habitable, to dwellings (of) light.
7. A full deliverance (for the) son of a chief, who was properly begotten the son of a chief.
8. Son above; son abroad; son according to the proper ceremonies (rightly *or* duly) performed; son according to the sign of the breaking-away of clouds, enlightening hitherwards from the outermost sides of the far-off horizon.<sup>671</sup>

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been driven on shore here in Hawke's Bay in a severe gale; it was very long, with a sharpish snout, and its white belly was regularly and closely longitudinally fluted throughout. Its appearance reminded me strongly of the plate of *Balaena* boops in Rees' Cyclopædia.

667 WC: There is a meaning here in this action of Ruatapu which should not be overlooked. To retain one's paddle (which was often highly carved and ornamented), in upsettings of canoes and in naval fights, was always an achievement, and a token of bravery, etc. Just as that of a young Spartan to retain his shield, or, in modern times, the colours, arms, etc.

668 WC: The very opposite feelings are to be here understood. Also in Uenuku's Spell, p. 7; and in Whakatau's Chant, "Trans. N.Z. Inst.", Vol. XIII., p. 68; and the last line of Songs, 1 and 4, pp. 65 and 70, l.c.

669 WC: For Space and Sky, see "Trans. N.Z. Inst.", Vol. XIII., pp. 68, 69, etc.

670 WC: See the charm used for Rongoua's fractured skull, p. 11, Uenuku.

671 WC: These two verses (7 and 8) require explanation. Here there are six high reasons given by Paikea for asserting his nobility:—

- (1) "Son of a chief"—i.e., by both parents.
- (2) "Properly begotten"—i.e., with betrothal, and parental consent, and every proper preliminary arrangement;—see Kapi's wedding, "Trans. N.Z. Inst.", Vol. XIII., pp. 45, 46. (All this was wanting in the case of Paimahutanga, the mother of Ruatapu; see p. 18, note.)
- (3) "Son above"—i.e., in and with the approval of the Sky.
- (4) "Son abroad"—i.e., around,—in or with the approval of Space.
- (5) "Son according to ceremonies duly performed"—i.e., by the priests (tohunga), at the early naming,—the cutting of hair,—the arriving at puberty, etc.
- (6) "Son according to the celestial signs"—i.e., these, such as are here referred to, were,—distant summer lightnings,—aurora australis,—peculiar red and other clouds, appearing on the horizon,—shooting stars, etc., etc.; and were always supposed

9. Ha! abroad, far away on the deep (is) verily the place to exert strength, showing the straining of (one's) sinews.  
 10. Here, now, (is) the skid, I mount up on the top (of it); the very skid of Houtaiki;<sup>5</sup> the skid satisfying the heart; the skid (that is) sure and fast.  
 11. Ha! ha! the cold wind (is) laughed at, defied; (so is) the cutting icy wind to the skin; so (is) the bitter cold penetrating and numbing vapour; and so the fainting internal feeling of sickness.  
 12. Here (is) the skid! I get up on (it); verily the same skid of Houtaiki<sup>672</sup> so greatly desired and looked for. [22]  
 13. Once, twice, thrice, four times, five times, six times, seven times, eight times, nine times, ten times.  
 14. Let not the fastening roots of Taane<sup>673</sup> be unloosed by thee: let not the hateful ill-omened winds to Taane be set free by thee.  
 15. Let the swimmings of a man in the ocean finally end; (let him) emerge at the habitable regions, at the lightsome (and) joyous dwellings.  
 16. Take up this descendant (of a line of chiefs); behold! he lives; (he) swims bravely.  
 17. Lo! he swims on; the head first-born chief keeps pursuing; he follows on still swimming away.  
 18. Lo! he swims; behold! he swims strongly; still swimming onwards, enabled, enduring.  
 19. A head first-born chief follows on; still keeping at the swimming; lo! he swims.  
 20. Behold! he swims away, even Paikea (a) first-born chief, who keeps going forwards, still keeping on swimming.  
 21. Lo! he swims; behold! he swims; upborne he swims; upborne he continues; he keeps at it, swimming onwards, toiling manfully.  
 22. Now above (the surface), then below! anon rolling between the billows; all that ends in the very reaching of the shore by Taane himself.<sup>674</sup>  
 23. Lo! look out! there it is; coming onwards towards (me), like a huge rolling wave. Ugh! strike it down! fell it! with the famed axe of ancient times,—that which overturned the land.  
 24. Ha! ha! his own mighty first-born chief appears (to his succour); that is, Rongomaruawhatu,<sup>675</sup> therefore it (the big) overwhelming wave, fled away, far off; ha!  
 25. The plugging and caulking stands good.  
 26. The fixing and lashing together stands good.<sup>676</sup>

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and believed to have been given at, or shortly after, such ceremonial seasons, as tokens of approval, etc.

672 WC: The skid of Houtaiki.“Houtaiki is the name of one of Paikea’s ancestors. Here, however, an allusion is made to the canoe of Houtaiki getting safely drawn up on its skids on the shore; it is a very ancient story. It was also used to denote a fixed safe barrier, or bounds, which were not to be passed, as at Taupo, etc.; and, also, known as “te puru o Houtaiki”—i.e., stoppage, obstacle, barrier. “Te rango o Houtaiki” is one of the names of the low isthmus connecting Table Cape Peninsula with the mainland. The name of Houtaiki often occurs in poetry, in connection with that of Houmea (infra).

673 WC: Taane, the owner and creator of forests; (see “Trans. N.Z. Inst.” Vol. XIII., p. 65;) here metonymically used;—“roots of Taane,”—i.e., of the trees of the forests. The strong westerly winds which often blow furiously in summer, sweeping down from the wooded heights and off the shore, East Coast, are here deprecated.

674 WC: Figurative, for a wooden canoe made out of a forest tree.

675 WC: One of Paikea’s ancestors.

676 WC: These two verses (25 and 26) are spoken of a canoe.

27. Let (him or it) be uplifted and carefully carried.  
 28. Let (him or it) be raised and supported.  
 29. Let (him or it) be borne along.<sup>677</sup>  
 30. Alas! my distress, making me to toil laboriously at swimming; here, indeed, it is now being seen.  
 31. Make (thyself) to swim on courageously and well, as a skilful knowing one of old: truly so! here, indeed, is it now being shown.  
 32. In the midst of the great ocean; here, indeed, is it being seen.  
 33. In the midst of the desolate wild,<sup>678</sup> far away from man; here, indeed, it is shown.  
 34. In the ragged first-appearings of daylight,—far off on the horizon, when first seen away there (from the shore); here, such is now being seen. [23]  
 35. My bird is verily met above; yes! there (it is) now returning; here, indeed, it is shown.  
 36. Ruatapu stood upright (in the sea) grasping his paddle, his last token! Alas! (it) was bad.  
 37. One chief dies (*or disappears*), another succeeds.  
 38. Kahutiarangi took Te Panipani to wife; he was a great chief’s son, highly esteemed by Whangara.  
 39. Here am I, still swimming on; floating, but, alas! going in no certain direction.  
 40. The big fish is beaten stiff in the tide of quick dashing waves.  
 41. Lo! there it comes! the canoe of Pakia<sup>679</sup> is fleetly sailing hither.  
 42. O! big black-and-white sea-gull, flying aloft there; settle down hither on (the) sea from the sky.  
 43. O! Taane!<sup>680</sup> enwrap (me), involve (me), with the garment of careless insensibility, that so I may quietly float to the shore.  
 44. Lie quietly down, O young chief, on the sea, which was purposely becalmed (for thee).  
 45. Carry safely forward thy brave swimming man to the shore.  
 [Possibly, there is some omission, or portion lost, here, W.C.] This, which follows, is the ending of the powerful and celebrated charm, which enabled Paikea to keep on swimming, and by it make his way through the ocean. In conclusion, he called on his ancestor, on Hikitaiore; saying:—  
 46. “O Hikita! O! here am I making a great fish of myself.  
 47. O Hikita! O Hikitaiore, O! lo! I am making a (drifting) waterlogged-whitepine canoe of myself.  
 48. O Hikita, O! O Hikitaiore, O! I am making a sperm whale of myself, basking and rolling in the deep.  
 49. O Hikita, O! O Hikitaiore, O! O Tuparara!<sup>681</sup> seek me hither, carry me to the shore.  
 50. O Wehengakauki! fetch me hither, carry me to the shore.  
 51. Taane! fetch me hither, carry me to the shore, to my

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677 WC: These last three verses (27–29) may mean, either Paikea, or the canoe coming to save him; there is nothing in the original to indicate gender.

678 WC: A term curiously used here,—as it means the uninhabited barren wilderness, far away from the dwellings of man.

679 WC: Another of Paikea’s ancestors.

680 WC: Taane is now, at last, invoked, to make him just as a tree-trunk, or log of wood, that so he may float unconsciously to the shore; (see, also, verses 22, 51;) Taane, is, also, used figuratively, for the Mainland, and is always placed in direct opposition to his enemy the Ocean.

681 WC: Names of two more of his ancestors.

own land; on to the very shore there; to my father indeed, on the shore, there away: alas! alas!"

Then (he) warmed, cheered, and consoled himself, by remembering the name of another of his ancestors, who was called Mataihuru, (*lit.* by, or through, the warm comforting sea, or tide,) and so recollecting, he cried:—

52. "Mataihuru! Mataihuru! through the warm sea, through the warm watertide, let my own skin now become warm; (let it now) become as if it were verily basking in the heat of the noon-tide sun suddenly shining on my own skin; let it now be, as if by the blaze of the fire brightly kindled up, that it may become hot."

And with (or through) these last words, Paikea caused himself to possess comfortable and warm feelings. And so Paikea, at last, reached the shore, at (a place called) Ahuahu. [24]

After some time residing there, he took to wife a woman of that place named Parawhenuamea, who bore him several children; one was named Marumuri, and there were others also named Maru (with some other affix). Afterwards he came further south to Whakatane, where he took another wife, who was named Te Manawatina; whence came the name of Whakatane from Manawatina. Thence he travelled still further south to Ohiwa, where he saw Muriwai within a cave; from which circumstance arose the name of Te Whakatohea, who dwelt at Opotiki. In course of time, and still travelling south, he came to Waiapu, where he took another woman named Huta to wife; and she came on with him to his own place. She bore him Pouheni, etc., etc. (See *Genealogy* appended.)

This highly curious and ancient Maori rhapsody, the *Spell of Paikea*, is among the longest of the kind known to me, and was possibly thrown into its present semi-poetical form (in the original) the better to remember it. Although I have already given copious explanatory notes, a few of its more prominent features may further be briefly noticed.

Throughout it possesses just such words and imagery, as a man (particularly a Maori) in such a situation might be supposed to use and entertain. It seems, to me, very natural that one should speak (talk aloud) to himself in that manner, if only to keep his courage up! Many of the similes used are very natural and proper.

A kind of regular and progressive sequence almost dramatic runs through it.

There is great freedom from fear, both natural and superstitious; great dependence on himself; and little looking to any higher power for aid (save in one instance) other than to his own ancestors, whose names he repeats and also calls on, but mainly (as it seems) to encourage himself by reflecting on their meanings; this latter is an old peculiar trait in the Maori character, of which I have known many curious instances.

The invocation to Taane (v. 43), is evidently favourably answered by Taane (vv. 44, 45): there is also a second call on Taane (v. 51). It also appears, in other verses, as if some one supernatural power or personage were speaking to him, or for him (vv. 16, 27–29, 31).<sup>682</sup>

It is not said how long Paikea was struggling at sea; but, no doubt, the canoe had put off, according to their custom, in the calm of early morning, (indeed, such is nearly said in the

story,) and Paikea, after long battling with the waves, feelingly alludes to the dawn of another day breaking; and to the early morning bird (of hope to him) appearing (vv. 34, 35). [25]

In "the ragged first appearances of daylight," is another very peculiar and poetical use of a common term; *lit.* it is, the ends of the irregular strands of scraped flax yarns (ravellings), hanging from the beginning of the weaving of a dress flax garment.

There are, also, some highly curious coincidences here, agreeing with several interesting particulars in Homer's two descriptions of Ulysses and his two long-shipwrecked boats at sea, each of many days continuance—one in reaching, and one in leaving Ogygia, Calypso's isle (Od., *lib.* V. and XII.); though Ulysses was at one time on a raft, and on another, at first, on part of the wreck of his ship, and afterwards for "two days and two nights" swimming. The coincidences are, (1) Ulysses spouting the brine from his nostrils, etc.; (2) his thoughts, words, and modes of encouraging himself; (3) the goddess, Leucothea, appearing to him in the shape of a cormorant, and alighting by him (giving him hope); and (4) Neptune's big billow, purposely sent, smiting Ulysses;—though, here, the "big billow," rolling on to do so to Paikea, fled before his invoked ancestor. Of Paul, also, we read, of his having been "a night and a day in the deep," probably floating on part of the wreck of his ship.

I would also offer a few brief remarks on this story of Uenuku's son, Ruatapu.

And first, I would premise, that while the details of a legend are always false, the legend itself always contains a kernel of truth; a mere invention never becomes a legend.

Ruatapu's revenge is terrible; but, as I take it, it was not carried out merely to avenge the great insult he had then received from his father, but to avenge his mother's and his tribe's great wrongs.

If he had succeeded in drowning Paikea also, and then had got safely back to land, which he might have done, in all probability he would have been the head young chief of Uenuku's people; as no one could have told the secret,—that he alone knew. No doubt he was very strong and brave.

His parting allusions to their *home* and people; his belief, and his directions, as to how he should live in their memories and songs; and his remarks on the annual recurrence of nature's signs on the sandy shore in the summer season, (which he must have often seen there when a merry boy, and perhaps that very time of the year 1) and of his being also with them *in spirit*, and of their festal meetings, and simple home evening diversions,—are all of an affecting kind. He left a wife (named Te Kiteora) and (at least) one son (named Hau), who are duly mentioned in several genealogical rolls, and from him some of the present East Coast Maoris trace their descent. [26]

In some other old legends which I have heard, Ruatapu is said to have foretold to Paikea, at their parting, of a great approaching flood, which would cover all the low-lying lands of the North Island of New Zealand; and that when its signs should appear, the people were to flee to the mountain, Hikurangi, near the East Cape. But this, in my opinion, is merely a straining and embellishing (after the usual manner) of what Ruatapu had said about his own returning (in spirit) to land from the sea in the summer seasons;—immensely strengthened, also, from his high rank, and from the fact of

682 WC: See, also, "Trans. N.Z. Inst.", Vol. XIII., p. 59, bottom.

those sayings having been his *last* parting words, which always had great weight with the Maori people.

### III. THE STORY OF HOUMEA.

IN bringing this paper before you to-night, perhaps I should state, in a few words, my reasons for selecting this story of Houmea out of many such.

1. Because that the name and doings of Houmea are often mentioned, or alluded to, in old Maori poetry, and that, too, in connection with the name of Paikea. Her name is also still used as a warning by the Maoris, in their current "household words" and proverbial sayings.
2. Because that, according to their genealogies, Houmea was a very ancient ancestress of Paikea. (See the Genealogy.)
3. Because of its high antiquity; for while (as I have already said) the time of Uenuku and Paikea goes back to about A.D. 1000, or 25–27 generations, the time of Houmea (as derived from their genealogical rolls) goes back to nearly 50 generations!!
4. Because of the very great scarceness of this ancient tale; it is, I think, unique; as with all my endeavours I could only obtain this one relation or copy.
5. Because it contains a few more of their Charms, Wonders, and Miracles.

#### THE STORY OF HOUMEA, A FEMALE THIEF: A VERY ANCIENT TALE.

##### Part I.

HERE is the narration concerning a certain female thief; the name of that woman was Houmea, and she was a very extraordinary person, a pest. The name of her husband was Uta.

One day her husband went out to sea in his canoe<sup>683</sup> to catch fish for himself and his wife and their two children; the name of one was Tutawhake, [27] and of the other Nini. The husband went out a long distance to fish, and having caught a plenty he paddled back to the shore; on landing he waited some time for his wife to come down to the canoe, to fetch the fish he had caught;<sup>684</sup> but she did not come. At last he walked to their village, and said to his wife, "O mother! mother! there was I on the beach long waiting for thee, but thou didst not come forth!" On hearing this, Houmea replied, "O, sir, it is entirely owing to the disobedience of these two children." Then Houmea went down to the sea-shore to the sandy beach, to fetch the fish, and when she got to the canoe, she swallowed all the fish,—every one went into her own stomach, being devoured by her. Thisfeat done, she went to pull up bushes of coarse sedgy plants, and of sow-thistles, which she brought on to the sands, and dragged and scattered them about; she also made big and small footsteps of her own footmarks, and trod all over the beach, and greatly trampled and tore it up, that it might be

683 WC: Here, throughout (as has been before observed, "Trans. N.Z. Inst.", Vol. XIII., p.), only the persons themselves immediately concerned are mentioned; but it should be understood there were plenty of others,—plebeians, etc. A chief, for instance, could not go out alone to the deep sea-fishing in a large canoe.

684 WC: Or, as the mistress, to superintend the taking them to the village; the distribution, etc.

inferred a marauding-party had been there and stolen the fish. This done, she returned to the village, quite out of breath, sighing and panting; and said to her husband, "O sir, alas! there are no fish left, the fruits of thy fishing! have they been taken away (quietly) by men,—or by a marauding party,—or by thieves?" Then the husband said, "Who, I should like to know, can that thievish people be? here residing near the dwellings of men."<sup>685</sup> When Houmea rejoined, "The numberless multitudes of imps."<sup>686</sup> To this remark her husband replied, "Perhaps so." Then they all went to rest. [28]

In the morning, early, he again went out on the sea in his canoe to fish, and having caught a quantity paddled back to the shore; there he waited a long time for the woman (or wife), Houmea, to come down to fetch the fish he had caught, but finding she did not come, he went on to the village; and, entering, said to her, "O, mother, mother! am I to remain ever on the sands? there was I waiting for thee, and thou didst not appear; nor, indeed, hast thou done any thing at all!" (*i.e.*, towards preparing for my return). Then Houmea arose, and went forth, and when she got to the canoe, she swallowed all the fish! But, on her going thither, her husband had sent their two children to watch her, and when they got there (within sight but hidden), they saw her swallowing the fish. So those children returned running to their father, and said to him, "O sir, O sir! it was verily Houmea herself who swallowed the caught fish of thy canoe!" Shortly after this Houmea returned to the village, panting and blowing, and said to her husband, "Never a single scrap was there left in thy canoe of all the fish thou didst catch! All have been taken away by some man or other." Then her husband replied, "O lady-daughter! who, indeed, is that man thou speakest of? The children were verily there, and on their looking-out they saw thee—thy own very self—swallowing the fishes of my canoe." On hearing this she was overwhelmed with shame; nevertheless she strove hard at her own proper work, winding about, doubling and equivocating, that her theft of fish-stealing might be wholly concealed. In addition thereto she also loudly said, that she was guiltless of this charge, for she had never known anything whatever of crime, whether of adultery or of stealing the food of any man; (therefore, was she likely to begin now?) And then she also said to herself, within her heart, concerning her children, "All right and straight, no doubt, your doings, but I'll equal them yet!"

685 WC: Meaning,—well able to protect their own property.

686 WC: Many are the stories—curious, droll, and interesting—related of these little folks,—"imps," elves, goblins, or fairies. I have never yet been able to decide, what particular English, German, or European term to give them as an equivalent. They are said to swarm in countless numbers; (see Story of Uenuku (*supra*), and Tawheta's figurative and proverbial expression respecting them (p. 13); and to be just as ready to do good to men in difficulty, as to do mischief. Indeed it is said, in some of their old Myths, that it was from those little cunning beings that the Maoris learnt the art of making nets. Their various relations concerning them have always served to remind me of Gulliver's active Lilliputians. They were found, also, in the depths of the forests, as well as on the sea-sands,—though rarely ever seen by men. Mr. Locke tells me that when he was engaged in surveying for the Government at Portland Island (Hawke's Bay), the older Maoris residing there assured him that they had often in the early morning seen the countless footsteps of those imps on the sandy shore, by the sides of the fresh-water streamlet, where they had been holding their night revels. They bore different names (family or generic) among the old Maoris; which may also mean a difference in kind, dispositions, powers, etc.

On another morning, after this, the father went again out to sea in his canoe to fish, and when his canoe had got out to the fishing-ground and had anchored there, Houmea said to one of her children, "O child, go for some water for us, we are all very thirsty;" and so the child went. Then she called to the other of her children, saying, "O child, come hither to me, that the lice (of thy head) may be caught and killed."<sup>687</sup> So this child went to her, and squatted down by her, and she caught some lice, and then she swallowed the child whole down into her stomach! Just afterwards the other child returned with the water, and this one was also swallowed up by her. Verily the two children were thus destroyed by her, swallowed [29] alive, within her own stomach there to dwell! By-and-bye the canoe with her husband returned from the fishing. On his coming into the village he found her groaning audibly, while the big flies were also buzzing in numbers about her lips. On seeing this the husband said, "O mother dear, art thou ill?" She replied, "Yes, very much so." Then he rejoined, "Where (within) is the demon (*atua*), that is now gnawing thee?" She replied, "Within my stomach, within my bowels." Then he said to her, "Wherever can the children be, as they are not here present?" To this she replied, "Gone away somewhere, from the early morning; wherever can they be, wherever can they possibly be!" Then he closely examined her lips, and having done so, he recited a powerful spell: these are the words of that spell:—

—"Attack, strike end on, hit away upwards, turn (it), ward (it) off on one side; cause the food swallowed by the big cormorant<sup>688</sup> to be disgorged without; (let it) be open, clear; the obstruction is already uplifted by the charm, the obstruction is now securely noosed in a running loop of flax and carried off,—that is to say, the obstruction hindering (*or* confining) Tutawhake."

At the close of those words, lo! out of her mouth came those two children she had swallowed; Tutawhake bearing a carved staff of rank (*taiaha*), and Nini bearing a spear (*huata*.) And this is the tale of old concerning the woman who was both a thief and a murderer of her own children.

## Part II.

THIS which follows is the second part of that tale of Houmea; which, however, is more concerning her husband Uta.

Now it came to pass that Uta very greatly feared his wife, lest both himself and his two children should be swallowed up alive by Houmea; and, therefore, he one day said to his two children, "My dear children, this is my word to you two; whenever I may send you to fetch drinking water, be very sure that you two do not go; when I shall threaten you (for not going), be sure that you two do not go; when I shall strongly order you to go, saying also that I will beat you with a stick if you continue disobedient, be sure you two do not go for any water; and even when, with a high voice and severe threatenings, I make you two to feel afraid, still, be very sure that you two do not go." It was not long after this, that their father ordered them to go (for water), when those two children paid no heed and stirred not at hearing the commands of their father. Then Uta turned to his wife and

said, "O mother dear, O mother dear, wilt thou not go and fetch me some water to drink? Verily I am dying through want of water. Here, also, have I been repeatedly ordering those children to go, and they [30] will not move, nor do anything, remaining as if deaf to my commands." On hearing this, Houmea went herself to fetch the water; and when she was gone forth, Uta began to say his spell; and this was it:—

—"Be the water absorbed (sunk into the earth), be the water decreased, be the water dried up; proceed onwards, O Hou,<sup>689</sup> proceed onwards; away, away, up to the very head of the streamlet, to the distant hill-country."

And so it came to pass, for, as Houmea went onwards, the water also retreated before her, going out of sight, sinking into the earth, and drying up. Then Uta said to his two children that they should all go away together; so the children went on to the sandy beach where their father's big canoe was. Then Uta taught and showed (by gestures) to the village, to the houses, to the clumps of trees growing near, to the privy, and to the brow on the hill (*or* place of look-out), that when Houmea should return and seek and call out the names of those three who were now leaving, they (the fixed residents) should all respectively answer to her calling,<sup>690</sup> and that not one of them was to remain silent; and so he ended his indications (showing-forth by gestures) to them. Then he, also, went to the sandy beach, and dragged down the canoe to the sea, and when she was fairly afloat, they all got on board and hoisted the sail, and away fled their canoe before the wind! away, away, to a very far-off distance indeed.

About this time it was that Houmea returned to the village, and not finding her husband and children, she went about calling them loudly, saying, "O sir, O sir, wherever can you all be; thou and our children?" Then the response came forth from the privy; the response came also forth from the houses, from the clumps of trees and shrubs, and from the crest of the hill. At last her heart failed her and became weak, and she began to pant and to cry. Then she went up onto the top of the hill and looked out towards the sea, and looking long and closely she saw the canoe far off, as a mere speck on the horizon. Then she walked to the low sandy tidal-bank and entered into a shag,<sup>691</sup> and went away out to sea floating upon the ripple of the tide. The two children in the canoe kept looking towards the land, and by-and-bye they, through their sharp look-out, saw Houmea coming on after them. On seeing her they cried to their father, "O sir, O sir, here verily is the demon (*atua*) coming hither!" At this time their father was asleep. He, awaking from sleep, said to them, "O (my) dear children, whatever shall I do, lest (I) be destroyed by that demon, swallowed down alive into her big stomach?" The two children rejoined, "Lo! we two [31] will hide thee below the platform-deck of our canoe, that thou mayest be surely concealed." So they accordingly hid him there, and he was out of sight. All this time Houmea was coming rapidly on to kill Uta to become food for her. As she neared the canoe her big throat opened wide to swallow them all! Coming close up, she cried out, "Where is my food?" The two children

687 WC: The head of a chief's child being rigidly tapu (tabooed, or sacred), could only be touched by a tapu person, and so with its vermin; through which the poor children were often great sufferers.

688 WC: Graculus varius.

689 WC: Abbreviated and familiar for Houmea.

690 WC: By way of echo. Note how careful the narrator is here,—Uta does not teach them by words, but by significant gestures, etc.

691 WC: Graculus varius.

replied, "There, indeed, left behind upon the land; we two came out to sea to catch fish, and were carried away hither by the force of the wind." Then she called to them, "I am nearly dead from want of food!" On hearing this the children gave her some roasted fish. She ate up all the fish and was not sated. Then she cried again to them, "Have you not plenty of fish, for I am not satisfied?" The children said to her, "O mother, O mother, here indeed is the thumping big morsel of food for thee, still upon the fire." On this she cried out, "Give (it) hither, give (it) hither, that it may be eaten up at once." Then they said to her, "Open thy mouth wide!" And, on her doing so, they flung an immensely big hot stone, by means of a pair of wooden tongs, right into her open throat, which went down into her stomach and burnt it! So Houmea perished there upon the ocean. But her offspring (representative or *alter idem*) is the big shag which still lives here among us. These related are the doings of Houmea of old. Of Houmea<sup>692</sup> that now dwells here in the habitable world (among men), this is the proverbial saying,—"Houmea, rough and ugly flesh!" And so the name of Houmea still remains among us, and is used and applied to all evil women; that is, all adulteresses and thieves found dwelling among men.

A few things mentioned in this tale may be briefly noticed.

1. The invariably kind and courteous words used by the husband, Uta, in addressing his erring wife, even when having received from her great provocation. Also, his kindness to his children.
2. The fishing-canoe must have been of large size, and of a different build from those of modern times (of Cook's days), for it had a platform-deck, under which the chief, Uta, was stowed away. So in the case of Rongoua, who snugly stowed himself away in the bow of the enemy's canoe, which was also a fishing-canoe, for a war-canoe on that occasion would have told its own tale. (See, Uenuku, (*supra*), p. 10).
3. That their deep-sea fishing canoes also carried a fireplace, and had fires and heated stones used for roasting fish.
4. The charming simplicity of their spells! and yet their (believed) great powers! and consequent value. [32]

#### A GENEALOGICAL APPENDIX.

##### I. Of Houmea.

THIS is a genealogical line of descent direct from Houmea, to show her offspring; which line also includes Paikea.

Houmea.  
Tutawhake.  
Nana.  
Nioi.  
Tangaroa.  
Te Meha.  
Te Toi.  
Te Ihimoana.  
Te Rapumoana.  
Tumaikawa.  
Matangiteunga.  
Ranginumia.  
Rangiwhetuma.  
Rangiwherara.

Tangaroapatiere.  
Tangaroawhakamautai.  
Te Petipeti.  
Te Rangahua.  
Te Aihumoana.  
Te Aihumowairaka.  
Rongomaitahanui.  
*Paikea.*  
Pouheni.  
Rangitekiwa.  
Rakaitapu.  
Te Aowhakamaru.  
Uetekoroheke.  
Niwaniwa.  
Porourangi.  
Hau.  
Rakaipo.  
Rakaiwhetenga.  
Tapuatehaurangi.  
Tawhakeurunga.  
Hinekehu.  
Whaene.  
Te Atakura.  
Tuwhakairiora.  
Te Aotiraroa.  
Tumokai.  
Tamaauahi.  
Te Rangikatoiwaho.  
Huiwhenua.  
Rongotukiwaho.  
Porourangi.  
Potae.  
Henere Potae.  
Wiremu Potae. = 48 generations. [33]

Some other of Paikea's ancestors, whom he had called on, and, also, recollectcd in his distress,—as Houtaiki, Pakia, Hikitaiore, Mataiahuru, etc.,—are yet more ancient than those mentioned in this list, and run, also, in two other lines of descent; those lines, however, are not here given.

##### II. Of Pani.

The genealogical line of descent from Pani down to Uenuku contains 38 generations; and there are several other generations enumerated which preceded Pani, besides others before the first of that line, which are evidently wholly, or in part, mythological.

##### III. Of Uenuku.

The line of descent from Uenuku to the present time contains 25 to 28 generations; *i.e.*, I have several lines of descent of several families strictly enumerated and all allowed, from Uenuku down to the present time, and they thus vary; which, however, can easily be accounted for. These lines give also the principal wife of each chief; and all of them descend from Uenuku direct through Ruatapu and his son Hau.

In the line, also, from Houmea (above), there are 27 generations from Paikea to the present time.

"Quid prodest, Pontice, longo  
Sanguine censer, pictosque ostendere vultus  
Majorum?"<sup>693</sup> —JUV.

692 WC: Meaning the bad women to whom the term is applied.

693 WC: Of what use are pedigrees, or to be thought of noble blood, or the display of family portraits, O Ponticus?

## 1881 Contributions towards a better Knowledge of the Maori Race (continued<sup>694</sup>).

*Transactions of the New Zealand Institute* 14: 33-48.

[Read before the Hawke's Bay Philosophical Institute,  
8th August, 1881.]

—“For, I, too, agree with Solon, that ‘I would fain grow old learning many things.’” —PLATO: *Laches*.

### ON THE IDEALITY OF THE ANCIENT NEW ZEALANDERS.

#### PART IV.—ON THEIR LEGENDS, MYTHS, QUASI-RELIGIOUS CEREMONIES AND INVOCATIONS, CONCERNING THE KUMARA PLANT.

In a paper which I was honoured with reading before you last year,<sup>695</sup> some account was given of the Kumara plant (*Ipomoea chrysorrhiza*), its use, high value, and manner of cultivation by the ancient Maoris, and of its several distinct varieties known to them: so much for the *real* concerning it. [34]

I now purpose in this paper to lay before you somewhat of its *ideal*,—according to the notions and belief of the ancient Maoris.

In so doing I shall have to narrate much that is strange and highly figurative, if not sometimes fanciful; yet, in general, simply so, and containing nothing objectionable. And here it should be remembered, that while the specialities and dress of a myth or legend are always false, the legend itself always contains a kernel of truth. A mere invention scarcely ever becomes a legend. Narratives, such as some I shall bring before you, were by the ancient nations never wholly invented. And I think it will appear to the thoughtful mind that some of the main incidents involved in these stories were derived from legends based on real occurrences; disguised, partly intentionally and partly not so, through their having been handed down by mere oral tradition through a long course of ages.

It is well-known that the kumara is not indigenous to New Zealand, therefore it must have been introduced into the country at some past period; but when, whence, and by whom, is, I fear, wholly lost in the hoary ages of antiquity. And here I may remark, in passing, another peculiarity concerning this plant,—one that serves to increase the difficulty in pursuing enquiries after it, (one, too, that I have long felt), viz.—that its true native country is unknown. In many parts of the New World, and those, too, isolated and widely apart from each other,—as New Zealand, Tahiti, the Sandwich Islands, Easter Island, and intertropical South America,—this plant is, and long has been, assiduously cultivated, (as it was here among the New Zealanders when first visited by Europeans); but its real indigenous habitat whence it first sprang is still unknown.<sup>696</sup> In this respect it much resembles those other useful annual plants ever

694 WC: See “Trans. N.Z. Inst.” Vol. XI., Art. V., p. 77; and Vol. XII., Art. VII., p. 108; also, Vol. XIII., Art. III., p. 57.

695 WC: “On the Vegetable Food of the ancient New Zealanders,” “Trans. N.Z. Inst.” Vol. XIII., p. 3.

696 WC: See Essay on the Maori Race, “Trans. N.Z. Inst.” Vol. I., § 53, xi.

cultivated by man from the earliest historical times,—maize, wheat, barley, oats, etc.

And here I should also, perhaps, mention (in connection with the heading of this paper, or this series of papers), that its name, as far as is known to me, is, and ever has been, much the same, if not identically so, in all those lands where it was found a prized plant of cultivation by their inhabitants.<sup>697</sup> And its *Maori* name of kumara may be a highly and very proper figurative one, well derived and full of meaning, and one quite in unison with the modes of thinking and of naming once so congenial to the ancient New Zealander, viz.—lord of the plantation, or cultivation, i.e. of all cultivated food plants; by the mere changing of the first letter *k* into *t*, [35] as is not unfrequently done in their language; and not only so in Maori, but such a conversion of these two letters obtains more or less in the Polynesian dialects generally. This conjecture seems also to be borne out, or further supported, by one of the similar figurative names given to the fern-root,—*infra*.

In bringing before you some of the legends and tales concerning this valuable root, I shall relate them in the following order:—1. Some of their earliest traditions concerning it;—2. Some of the beliefs of the Maoris respecting it; and—3. One, or more, of their quasi-religious prayers, or spells, anciently used by them in their planting it; all of which, especially the last, are of great interest.

##### (1.) *Of their earliest Traditions concerning the Kumara.*

First, it has a place in their primitive cosmogony, wherein it is stated, that it descended from the first elements, (or first male and female pair, whence all beings and things came), *Rangi* and *Papa*—Sky and Earth, being one of their numerous progeny, equally so with the fern-root.<sup>698</sup> This, however, is denied by some *tohungas* (priests and skilled men), but mainly through the kumara being a *tapu* (tabooed, or sacred) plant, while the fern-root is not so; or, as I take it, the one is a plant only propagated through careful and particular cultivation and preserving, aided by charms; while the other is indigenous, common, grows wild, and is never cultivated; notwithstanding, the fern-root also carried a great and high figurative name, viz.—*Arikinoanoa* = little first-born lord, or lord of lesser rank, or lord of common things.

Another curious old legend has the following:—“This is the reason why the kumara was never joined together with the fern-root. The Kumara is *Rongomaraeroa*,<sup>699</sup> and the *Aruhe* (fern-root) is *Arikinoanoa*; they are both children of Sky and Earth. *Rongomaraeroa*, or the kumara, was placed as an *atua* (superior being) to *Tumatauenga*, or the man; so that, in case the foe should come against him, the kumara should be ceremonially carried forth and laid in the road the war-party was to come, and there spells were also uttered, through which the war-party, in coming on over the sacred and charmed kumara, would be sure to be defeated, and

697 WC: “It is singular that the Quichua name for sweet potatoes, which I found in the high lands of Ecuador, is Cumar; identical with the Polynesian Kumara, or Umara, and perhaps pointing to the country whence the South Sea Islanders originally obtained this esculent.”—Dr. Seemann, in *Flora Vitiensis*, p. 170. See, also, my “Essay,” loc. cit., of an earlier date, § 53, pars xi.—xv.

698 WC: See “Trans. N.Z. Inst.” Vol. XIII., p. 23.

699 WC: See, below (p. 37) for meaning of this, etc.

caused to retreat, through their sacrilegiously trampling on the sacred kumara and spot,<sup>700</sup> etc. [36]

That the kumara must have been known to the Maoris from very ancient times (from their historical traditionary beginnings, or even earlier times), may be also logically inferred,—(1) from their ancient common belief, that their deceased ancestors (chiefs) fed on it in the nether world, the Maori Hades (*Reinga*); and (2) from their strange stories of persons who had been ill and had died, and had gone thither, and came back again to life, bringing kumara with them (though generally losing them by the way!); and (3) from their state during dreams, when they firmly believed that the spirit left the body and wandered at will, sometimes even visiting the nether world, when, of course, it saw goodly visions of kumara; and (4) from the marvellous exploits of their pre-historic hero, Tawhaki, who, among other things, having climbed up into the sky, visited his ancestress, Whaitiri, who was blind from age, and on his arriving at her place of abode, he found her engaged in carefully counting her seed-kumara roots.<sup>701</sup>

Another quaint old ancient legend concerning the kumara, which partakes a little more of the historical element, runs thus:—

*The Story of the fighting of Tumatauenga with his elder Brother Rongomaraeroa.*

(Literally translated.)

Their angry contention arose about their kumara plantation; the name of that plantation was Pohutukawa. Then Tumatauenga went to see Rurutangiakau, to fetch weapons for himself; and Rurutangiakau gave to him his own child Te Akerautangi; it had two mouths, four eyes, four ears, and four nostrils to its two noses. Then their fighting began in earnest, and Rongomaraeroa with his people were killed, all slain by Tumatauenga. The name given to that battle was Moenga-toto (sleeping-in-blood, or bloody sleep). Tumatauenga also baked in an oven and ate his elder brother Rongomaraeroa, so that he was wholly devoured as food. Now the plain interpretation, or meaning, of these names in common words, is, that Rongomaraeroa is the kumara (root), and that Tumatauenga is man.

A remnant, however, of the Kumara (tribe) escaped destruction, and fled into a great lady named Pani to dwell; her stomach (*puku*) was wholly the storehouse for the kumara, and the kumara plantation was also the stomach of Pani. When the people of her town were greatly in want of vegetable food, Pani lit the firewood of her cooking-oven, as if for cooking largely, and it burnt well, and the oven was getting ready. The men (of the place) looking on, said, one to another, “Where can the vegetable food [37] possibly be for that big oven, now being prepared by that woman?” They did not know of her storehouse, she herself only knew. She went outside to the stream of water, and collected it (the food) in two gatherings only (or, two scrapings together

700 WC: Hence, war-parties by land were careful not to travel over the old roads or common tracks, if there were any. See my paper “Historical Incidents and Traditions,” Part II., Uenuku, and the note there, (p.14 supra).

701 WC: See Grey’s “Polynesian Mythology,” p. 70: there, however, it is stated that they were “taro roots” which the old lady was counting; who, also, there bears a different name, or nick-name, Matakerepo—Totally blind, from her blindness. This is the only instance I have ever heard of taro being used for kumara-roots.

with her hands); she filled her basket, and she returned to the village (*pa*), to place her food in the oven, and to attend to the baking of it; and when the kumara was properly cooked, she served it out to her people, distributing it evenly. And thus she did every morning and every evening for many days. Now the vegetable food of the time of war is fern-root (pounded and prepared in a mass), which (root) the Maoris commonly call, the Permanent-running-root-of-the-soil. In the morning of another day, Pani again went and lit the fire of her cooking-oven, to bake food for all her people; then she went outside, as before, to the stream of water, and seizing her big basket she sat down in the water, groping and collecting beneath her with her hands. While she was thus engaged in gathering the kumara together, there was a man hidden on the other side of that stream, his name was Patatai, and he was a *moho*; he, seeing her and her doings, suddenly made a loud startling noise with his lips (such as Maoris make to startle wood-pigeons), which Pani heard, and was wholly overcome with shame, at herself and her actions having been seen. The name of that water was Monariki. The woman returned crying to the village, through her great shame; and hence it was that the kumara was secured for man. The name of her husband was Mauiwharekino. From Pani came the several sacred forms of words (*nga karakia*) used ceremonially by the wise men (*tohungas*) at planting and at harvesting the kumara. It was Tumatauenga who destroyed the kumara, lest the strengthening virtues of Rongomaraeroa should come down (or become known) to the habitable earth (or to this land).

For the probable time of Pani, see Genealogical Appendix, p. 33, (supra) “Historical Incidents and Traditions.”

#### *Explanatory Notes to the foregoing.*

THE names and personages here mentioned are to be first noticed.

1. Tumatauenga<sup>702</sup> was the favourite and powerful son of *Rangi* and *Papa* (Sky and Earth); his name may mean, Lord-(with-the)-fierce (or strongly-emotioned)-countenance. Rongomaraeroa means, Fame-resounding-(in)-long-open-courts (or squares). Courts, here, are the fenced-in open plots before the several chiefs’ houses in a town (*pa*), and have just the same meaning as “gates” in Oriental language, or of forums, [38] public- or market-places, with us. Rongomaraeroa,—though, sometimes, under an abbreviated or different name,—was always considered to be the patron, precursor, or master of the kumara.

2. Pohutukawa,—the name of the sea-side tree in the North Island (north of Table Cape), *Metrosideros tomentosa*; also, of a variety of the kumara with reddish flesh, something like the colour of the wood of that tree; and the name (according to some legends) of the first kumara on the West Coast; and, also, of an old variety of kumara, universally known in the North Island.

3. Rurutangiakau,—this quaint and ludicrous figurative name, literally means, (The)-owl-crying-(by-the)-rocky-sides-(of-the)-sea! It may, however, also, mean, (The)-thicket-(by-the)-resounding-sea-cliffs; or, (The)-sheltered-resonant-clump-(of-the)-sea-side. (The word *ruru* being equally common for owl, and for shelter, or sheltered; and here given by metonymy to the wood, or thicket, which

702 WC: See Grey’s “Polynesian Mythology,” pp. 4–13, for much concerning Tumatauenga, with Western embellishments.

yields the shelter.) I incline to this last meaning, in connection with the name of "his own child" (see, No. 4, *infra*); which tree also often grows on dry spots near the sea. The sea-side name is also quite in keeping with the former name of Pohutukawa.

4. Te Akerautangi,—the rustling-leaved-*ake* (*Dodonaea viscosa*), a small tree, so-called from the sounding of its harsh dry leaves striking against each other when set in motion by the wind. (Another proof of the high discriminating faculties of hearing and of observation of the ancient Maoris.) Of the hard wood of this tree (their hardest), their digging-spades (*koo*) used in planting the kumara, and their staffs of rank (*taiaha*, and *hani*), sometimes used as weapons of offence, were made.<sup>703</sup> This "child" of the thicket, is such a digging-spade, or staff, carved and ornamented in the usual manner, as described, with its four eyes, etc. There is, however, something more here, hidden,—some esoteric meaning,—in the Janus-like ornaments of those implements,—especially in the one used only in cultivation,—indicative of a looking-both-ways, and of working diligently,—and that, too, always under strictly tabooed regulations.

5. Pani,—this word has several meanings,—(1) To paint, daub, anoint, etc.; (2) To close, or obstruct, an entrance, way, etc.; (3) To be friendless, forsaken, to be deprived of parents, etc.; also, a widow, orphan, etc. Possibly here it may be taken to indicate that this personage, Pani, was at first [39] a widow of rank (one of those whose husbands were killed in those fightings before related), who had by her prudence, economy, and forethought secured the kumara; or it may indicate that the kumara, the child so saved by her, was itself an *orphan* there; and, as is not unfrequently the case, the name for it was given to, or taken by, its preserver patroness, or mother. I incline to this latter conjecture. (See, below, The Invocation to Pani, and notes there.)

6. Patatai,—whether this was a man, or a bird bearing that name, I cannot definitely say; for the word "*moho*" means,—(1) the various birds of the Rail family (of which there were several species),—generically, or as a natural class,—of which one species also bears the name of *patatai*, and of *moho-patatai*;—(2) a wood- or bush-man; a man, a remnant, a survivor of some unfortunate tribe or family, living far away from men, through fear, solitarily in the "bush". Both man and bird are now alike extinct. I am, however, inclined to believe that a man was intended, who, probably, obtained that name from his so solitarily acting, concealed, rail-like, among the rank untrodden vegetation on the margin of the stream.

7. Mauiwharekino,—Pani's husband, Maui-(of-the)-evil-house. There were several heroes of old named Maui; this one, however, is distinct from the great hero, who bound the Sun, and who fished up the North Island, etc., etc.<sup>704</sup>

703 WC: This is commemorated in their poetry, thus:—

—“Ko ta namata riri,  
He kahikatoa, he paraoa,  
He Akerautangi.”

The fighting weapons in the days of old were (made of) the kahikatoa (wood), and sperm-whale bones, and the akerautangi (tree).

704 WC: In another ancient legend of Pani (principally found in the more northern parts of New Zealand), it is stated that Tiki was Pani's husband. Tiki, also, being the first man, or progenitor, or

8. Tumatauenga's destroying the kumara may here indicate,—(1) that man, at first, did not know how to cultivate and to preserve that valuable root, through ignorance;<sup>705</sup> and (2) that fierce fighting man was an enemy to the quiet cultivator, and cared nothing for the arts of peace,—showing plainly, in other words,—“Their feet are swift to shed blood; destruction and misery are in their paths; and the way of peace have they not known.”

#### (2.) *Some of the more prevalent Beliefs of the Maoris concerning the Introduction of the Kumara into New Zealand.*

These vary considerably in detail with almost every great tribe, or people, of New Zealand,—as to the time when, the persons by whom, the name of the "canoe" (*waka*), and the name of the sort, or kind, of kumara brought; also, its having been purposely sought or fetched from [40] abroad; or casually brought into New Zealand. And here I should mention (lest it might be considered to be a matter of small moment), that with the Maoris, the name or names of the persons (chiefs) engaged,—including their wives, their canoes, their paddles, and their balers; and also the name of the plantation first planted, and even of their wooden digging-spades used,—is almost everything! Many of them are said to be still preserved in their legends, and with them (the Maoris) their possession is unanswerable!

(a.) According to the Maoris of the East Coast (Table Cape to Cape Runaway), especially the large Ngatiporou tribe,—a New Zealand chief named Kahukura went in his canoe from New Zealand to "Hawaiki" to fetch the kumara for planting. Arriving there, he found the kumara-crop had been already harvested; but he turned-to and cut down a portion of the cliff where the kumara grew spontaneously; when, aided by his powerful spells, the kumara fell, and soon filled his canoe, which was called Horouta. This done, he again laid his spells on that spot, to stop the kumara from falling down the cliff, and then brought the kumara with him to New Zealand. On returning to the East Coast, he first landed at Cape Runaway, where he first planted some of his kumara; thence he carried them, coasting south, to Waiapu (East Cape), to Poverty Bay, to Table Cape, to Hawke's Bay (south side), and across the straits to the coast between Cape Campbell and Kaikoura:—"all this distribution of the kumara to those several places, was done by that one person Kahukura." This statement, however, is stoutly denied by other Maori tribes, especially by those residing on the West Coast, and at the Thames. Here the names of both the chief and his canoe should be noted; that of the chief being one of the Maori names for the rainbow, and that of the canoe meaning, (The)-falling-down-(of-the)-mainland (cliff). Also, a statement which is firmly believed by the Maoris, and which I have often heard from several of them, who asserted they had themselves seen it, namely,—that at Cape Runaway the kumara grows indigenously,<sup>706</sup>—that is, without annual planting; the scattered small tubers left in the ground in the cultivations invariably spring the following

precursor of man. In Dieff., Vol. II., pp. 47, 116, this is noticed. Dieffenbach obtained this information at Kaitaia Mission Station.

705 WC: See a similar figurative indication in the ancient legend respecting the beginnings of the fern-root, "Trans. N.Z. Inst.", Vol. XIII., p. 24, first three lines.

706 WC: See this alluded to, in Grey's "Polynesian Mythology," p. 143.

season, which they never do anywhere else, and this, they say, is another proof of the first imported kumara having been planted there. From the very favourable position, however, of the sea-side lands inside Cape Runaway, lying so far to the east and so protected from the south, such may very well be accounted for naturally.

(b.) According to the Maoris of the West Coast, the kumara was first brought by their progenitor, Turi, in his canoe named Aotea, on his emigrating from "Hawaiki;" when he came to New Zealand, and landed [41] and remained there at Patea on the West Coast. He also, they say, brought with him on that occasion, the other cultivated edible root, the *taro* (*Caladium esculentum*), and the *karaka* (*Corynocarpus laevigata*), also the swamp-bird, *pukeko* (*Porphyrio melanotus*), some green parrots (*Platycercus pacificus*, and *P. auriceps*), the Maori rat, "and many other good things for food."<sup>707</sup> Unfortunately, however, for them, nature is against them, for the *karaka*-tree is believed to be purely endemic; so also are the two green parrots, and the blue rail, *pukeko*.

(c.) The Thames Maoris deny all the preceding, and assert that the kumara was first brought from "Hawaiki" by the chiefs Hotunui and Hoturoa, in their canoe called Tainui, which they say was also the *first* canoe of emigrants thence to New Zealand. Or, as some others say, the kumara was brought by the lady-wives of those two chiefs, named Marama and Whakaotirangi, together with the *hue* (*Cucurbita* sp.), the *aute* (*Broussonetia papyrifera*), and the *para* (*Marattia salicina*),—and, also, the *karaka*; but this last plant grew accidentally, as it were, the timber having been shipped merely as skids to be used for drawing up their canoe on their landing. Those identical poles, or skids, planted by them, and now grown into trees, are still shown at Manukau! (A suitable match for Dr. Hector's newly-discovered plant at Kawhia—*Pomaderris tainui*,—of which a similar legend is told.)<sup>708</sup> A portion of this story is so good that it deserves to be fully translated. I therefore, give it.

"When the canoe, Tainui, had been dragged across the portage at Tamaki (near the head of the Hauraki Gulf), and reached Manukau (on the West Coast), they coasted south to Kawhia; landing there, those two ladies (Marama and Whakaotirangi) proceeded to plant the various roots they had brought with them from 'Hawaiki.' This they did in two separate plantations, at a place called Te Papa-o-karewa in Kawhia; but when those several roots sprung and grew up, they all turned out differently. Of those planted by Marama, the kumara produced a *pohue* (*Convolvulus sepium*), the *hue* produced a *mawhai* (*Sicyos angulatus*), the *aute* produced a *whau* (*Entelea arborescens*), and the *para* produced a *horokio*.<sup>709</sup> All the plantings of Marama grew wrong [42]

707 WC: See Grey's "Polynesian Mythology," p. 212, for this in part.

708 WC: See "Trans. N.Z. Inst." Vol. XI., p. 428.

709 WC: Here, the correct natural discrimination of the old Maoris, in according plants of a similar appearance and manner of growth to those planted, as their simulated substitutes in mockery, is very apparent, and is worthy of a brief passing notice. Indeed, the first two counterfeits belong severally and botanically to the same natural order (and one of them to just the very same genus) as the two plants which had been planted and failed. The third counterfeit, *Entelea arborescens*, though far separated botanically, has been often planted by Europeans in the early Napier gardens as being the real *aute* (*Broussonetia papyrifera*), and called, also, by its name, "Paper Mulberry;" there being a great common superficial likeness in the leaf, bark, size, etc., of the two shrubs. While the fourth counterfeit is

and strangely, and that was owing to her having transgressed with one of her male slaves. But the plantings of Whakaotirangi all came up true to their various sorts, and from them the whole island was subsequently supplied. Hence, too, arose the proverb, which has been handed down to us,—'Greatly blessed (*or gladdened*) art thou, O food-basket of Whakaotirangi!'<sup>710</sup> So let all Maoris know, that from the canoe Tainui came her kumaras, her *hues*, her *autes*, and her *paras*, and her *karakas* (which last, sprang from the used skids which her crew had brought away in her), and, also, her *kiore*s (rats)."

(d.) Another still more strange and far-fetched tale, concerning the introduction of the kumara into New Zealand, is also related by the Maoris of Hawke's Bay (south), which may also be briefly mentioned here, if only for its singularity. A chief of old, named Pourangahua, was getting his canoe ready to go to sea, to seek some better-relished food for his infant son, Kahukura;<sup>711</sup> the child having rejected with fearfully loud noises its own mother's milk, also the soft liver of the fish *kahawai* (*Arripis* *salar*), with which it had been fed. (From that liver, however, so rejected by him, sprang the flying-fish.) The canoe being dragged down and all ready, the chief, Pourangahua, returned to his house for something forgotten, and while absent his four brothers-in-law (Kanoae, Paeaki, Rongoiamoa, and Taikamatua), embarked in the canoe and sailed away. Pourangahua, nothing daunted, went after them on a canoe (or float) made of a duck's feather; a squall, however, coming on, he was soon sent to the bottom! Emerging to the surface, he swam and battled away against the seas, and finally got on to a whale's back, on which he managed to keep himself by means of his powerful spells. Afterwards, he met his own canoe with his brothers-in-law returning, he joined them, and on reaching the shore, and calling the kumara which they had brought by its own proper and special name of Kakau<sup>712</sup> (to which the kumara itself answered, by asking, "Who he was that had spoken—or divulged—its name?" etc.), he obtained from [43] them two roots of kumara, which he planted with the proper charms and ceremonies, and from these the whole country was in course of time supplied, so that both his own son, Kahukura, and all besides were amply fed with this good vegetable food.

(e.) A still more romantic version of this last story is the one held by<sup>713</sup> the Urewera tribes living in the mountainous interior, which would be hardly worth relating were it not for their isolated situation, shut up far away from other tribes among the mountains and forests, and for the fact of its containing several of the very special names of the prized

evidently a fern, and very likely one of the large common tufted thick-growing coalescent ferns,—e.g., *Polypodium pennigerum*, *Lomaria discolor*, or *L. gigantea*, the smaller *Dicksonia*, etc. The Maori name of Horokio is now variously given by different tribes to different plants.

710 WC: This circumstance, however, is very differently related in Grey's "Polynesian Mythology," p. 142.

711 WC: Same name as under (a.) supra.

712 WC: Curiously enough, this is the same special name that is given to the kind of kumara said to have been brought from "Hawaiki" by Turi in his canoe (b., supra). See Grey's "Polynesian Mythology," p. 212.

713 WC: Great-cliff-(of-the)-sun, and Great-cliff-(of-the)-sky. The name of a high cliff on the East Coast, between Tolaga Bay and Poverty Bay, is Pari-nui-te-ra; this is, also, Cook's Gable-end-foreland.

varieties of kumara formerly cultivated by the Maoris, both North and South: those very varieties, too, belonging to the widely different sorts—showing their antiquity. They say,—“that Pourangahua went after his brothers-in-law to ‘Hawaiki;’ that his canoe being gone, he went thither on two pet birds, named Tiurangi and Harorangi, the property of a chief named Ruakapanga, who lent them to him for the occasion. That Pourangahua brought away thence from two cliffs, called Pari-nui-te-ra, and Pari-nui-te-rangi, the following seven varieties of kumara, viz., Kawakawatawhiti, Toroamahoe, te Tutaanga, te Kiokiorangi, te Tutaetara, te Monenehu, and te Anutai.<sup>714</sup> That the roots brought to New Zealand by Pourangahua lived and flourished; but that those which had been brought by his brothers-in-law did not grow.”

I remember well, when first travelling in those parts in the interior, 43 years back, (being the first European visitor among them), the many questions respecting the kumara and its first introducers which were put to me by the *tohungas*, “as posers to test my knowledge,” (as they subsequently informed me), and their great earnestness respecting them.

**(3.) A Charm, or Invocation, used at the Planting of the Kumara Roots.**

1. Now (is) the planting-season favourably indicated from the sky (of the) mainland;
2. Now (is) the season (for) planting favourably indicated from the sky (of the) ocean.
3. Verily, and now it is from (*or* according to) Raukatauri, together with Raukatamea,
4. (And) Maititi,<sup>715</sup> (and) Marekareka:—
5. Ye sought it out;
6. And it was divulged (*or* caused to creep silently) abroad by thee [44]
7. At Waeroti (and) at Waerota.
8. At early dawn let the attendance here be numerous;
9. Let the appearing of the sun be waited for here;
10. Be ye all coming-in hither from every-where round about.
11. Here, indeed, shall be Regular-Distribution (of seed);
12. Here, Abundance (of seed);
13. Here, Visiting-little-hillocks (with the seed).
14. The little hillocks shall be all severally visited,—
15. Throughout—through all—far on—round about.
16. Thinly-encumbered (*or* scantily clad with earth),
17. O Son of noble birth!
18. Incline thyself towards the warm sea-breezes;
19. Thy face shall be favourably marked with the waters causing vegetable growth;
20. Be (thou) soon seizing, grasping the soil with thy rootlets,
21. Even as a bird lays hold,—*or* grasps,—(with its claws);—
22. For thou art naked, unclothed, having only thy skin!
23. Therefore, be thou seizing, laying fast hold (of the earth);
24. For thou art naked, possessing only thy skin!

<sup>714</sup> WC: See “Trans. N.Z. Inst.,” Vol. XIII., pp. 34, 35. In the list there given, however, there is Anurangi for Anutai; but the root-meaning of both words is the same.

<sup>715</sup> WC: One MS. has it, Mahitihiti.

25. Whence shall the future fruit,—*or* increase,—be obtained?
26. Let the proper fruit,—*or* increase,—be seized, be laid fast hold of through me;
27. That is, the proper fruit,—*or* increase,—from without;
28. That is, the proper fruit,—*or* increase,—with Pani,—*or*, which Pani has in her possession.
29. O Pani! O! come hither now, welcome hither!
30. Fill up my basket (with seed kumara roots) placed carefully in, one by one;
31. Pile up loosely my seed-basket to overflowing:
32. Give hither, and that abundantly!
33. Open and expanded awaiting (is) my seed-basket:
34. Give hither, and that abundantly!
35. By the prepared little hillocks in the cultivation (is) my seed-basket placed;
36. Give hither, and that abundantly!
37. According to the spell of Space (is) my seed-basket awaiting;
38. Give hither, and that abundantly!
39. By the sides of the borders of the plots (in the) cultivation, (is) my seed-basket placed;
40. Give hither, and that abundantly!
41. By,—*or* according to,—the proper form of power and influence,—*or* potential power,—(is) my seed-basket placed;
42. Give hither, and that abundantly!
43. The (doors of the) row of seed-kumara store-pits are not yet closed hitherwards;
44. The floors of the same are not yet in view, *or* seen (*lit.* met—with the eye).
45. Let all the roots (for planting) be spread about carefully.
46. Let the whole be everywhere properly done.
47. Now, jump! move your legs and arms briskly;
48. Carry the roots for planting throughout the plantation.
49. Go forth! (ye) selected food-bearing seed (of) Whaitiri, into the plantation;
50. (There) to be carefully set in the soil one by one.
51. Let the fruitful seed go hither and thither; [45]
52. Let them be carefully carried about.
53. Be (you) diligently occupied in planting carefully.
54. Planted, verily planted (are the seed of) my baskets.
55. Spread open, empty, verily scattered around, (are) my (empty) used seed-baskets!
56. Above (there) in the sky (thou art) far away out of sight, hidden;—
57. Give, therefore, here in this place, as a reward
58. Of the believing this,—*or* our making it (to be) real and truthful,—
59. And let it be alike truthful and real (to us);
60. Yes; just so, indeed.

(The figures beginning each verse, are added merely for the sake of reference:—See ANALYSIS, *infra.*)

Few subjects among the many of this class known to me have afforded half the satisfaction I have obtained from this one; but I have only gained it through a long, patient, and tedious amount of heavy labour! The translation of this semi-poetical charm, or invocation, being exceedingly difficult, owing to so many archaisms, allusions and ellipses. Desirous, however, of laying it before you in its original beauty—of meaning and arrangement—I have studied to translate it as literally as possible, consistent with perspicuity and the dissonant idioms of the two languages.

Of the various spells, etc., anciently used in planting the kumara, that I have acquired from several *tohungas* during

many years, there are no less than three which contain this direct invocation to Pani; and while the introductory words of those three forms vary a little, the kernel—the invocation itself—is almost literally the same in them all! This circumstance, together with its evident antiquity (as shown from their genealogical tables), the fact of its being one of the *very few* known forms of direct invocation to any being or personification ever used by the ancient Maoris,<sup>716</sup> its poetical structure, and its regular fitting and progressive disposition,—make it a subject of extreme interest if not of importance.

Those charms, when used, were always muttered in an under-tone by the *tohunga*, who performed this duty while walking about the plantation, *solas*. This one, used in the spring, at the first planting season, serves to remind us of the vernal sacrifices and prayers of the ancient Egyptians and Romans,<sup>717</sup> and other ancient Northern nations; and like those by them, it was used to procure fertility; and when simple, (as in this instance), they may be regarded as among the most beautiful and becoming of the rites of natural religion. [46]

For this purpose, also, another strange plan was long observed by the Maoris of the interior. A portion of an ancient relation I received from them runs thus:—"Tia<sup>718</sup> and his party" (who, it is said, had come to New Zealand from "Hawaiki" in the canoe Arawa), "did not return from Taupo (inland), whither they had gone, to Maketu (on the coast); they all died inland at Titiraupenga, where their bones and skulls long were, and were, indeed, also seen by the Maoris of this generation just past. Those skulls were annually brought out, with much ceremony, and placed in the kumara plantations, by the margins of the plots, that the plants might become fertile and bear many tubers."

Captain Cook also relates, that in the plantations of kumara at Tolaga Bay, which he and his companions visited (on his first voyage to New Zealand),—"they saw there, a small area of a square figure, surrounded with stones, in the middle of which one of the sharpened stakes which they use as a spade [*koo*] was set up, and upon it was hung a basket of fern-roots: upon enquiry the natives told us, that it was an offering to the gods, [?] by which the owner hoped to render them propitious and obtain a plentiful crop."<sup>719</sup> This is in the main correct, as I have myself proved,—omitting the words "an offering to the gods."

It is just possible, that the kernel of this charm or invocation to Pani, may be among the very oldest known!

And here, to make it still more plain, I will just briefly give a simple analysis of the contents of this Invocation, with a few explanatory notes; through which, I think, its suitability, beauty, and regularity, will be the more clearly perceived.

716 WC: I should, however, also state, that besides those three charms, or invocations, already mentioned, containing direct invocations to Pani, I possess, among several charms, etc., from the North, another charm used for the restoring of a sick person to health, in which Pani is also invoked together with her husband Tiki, and both simply and separately called on to grant health to the patient.

717 WC: Virgil, Ec. V., 74, 75: Georg. I., 335–350.

718 WC: Tia's name is mentioned in connection with the Arawa, p. 146, Grey's "Polynesian Mythology."

719 WC: First Voyage, Vol. III., p. 472.

## ANALYSIS.

I. A statement of the celestial signs of Spring being fortunate, or favourable, for their work, according to tokens discerned by the *tohunga* from over both land and ocean: lines, 1–2.

II. Of their work being begun according to old descended custom; mentioning the names of four of Tinirau's eight sisters,—who were sent over the sea in their canoe to carry off Ngae (or Kae) for his theft of Tinirau's pet whale.<sup>720</sup> Possibly they were here mentioned, on account of that memorable night of high glee and jollity spent in all manner of games by those women and their assistants, through which plan they also succeeded in detecting and carrying off Ngae;—the bare mention of this always caused pleasing mirthful ideas to the Maoris and was just as politically useful to the working-class among them at the beginning of their heavy annual working-season, as the festival [47] of the Carnival in some countries preceding Lent! "Waeroti and Waerota" are the names of two places out of New Zealand (real or mythical) not unfrequently referred to, in this way, in their old poetry and myths; and often in conjunction with "Hawaiki" lines, 3–7.

III. A direction to the workmen to be ready early; another indication of their industrious agricultural habits: lines, 8–10.

IV. A promise, that what was really necessary, on the part of the owners, or chiefs, should be there, allegorically personified: lines, 11–13.

V. That the work should be throughout regularly performed: lines, 14–15.

VI. A quiet, stately, fitting address, abounding in natural truths, made to the kumara sets, personified,<sup>721</sup> about to be planted; reminding them whence their beneficial growth, etc., were to be obtained: (1) from nature, the sea-breezes or summer-winds, and rains; and (2) from their own action,—growing and holding-on to the soil; great need of this advice, as they were always planted in the tops of raised light gravelly hillocks:<sup>722</sup> lines, 16–24.

VII. The question proposed,—Whence the crop, or future increase? (Carefully note the response, made by the *tohunga* (priest),—the old, old, story! *semper idem*): lines, 25–28.

VIII. The invocation proper to Pani; note its great simplicity, its gradations, and its recurring refrain, repeated regularly six times: lines, 29–42. (The tubers were to be placed "carefully and loosely, one by one," into the seed-baskets, because they had commenced sprouting, and the sprouts were of slender and delicate growth.)

IX. A premonition to the working-party: here are two statements made to the workmen, as if from a pilot, or master, occupying a more commanding situation, each one pregnant with suitable meaning: (1) the doors not yet being closed, and (2) the bare floors not yet exposed to view; meaning, the seed not all planted, the work not yet finished: lines, 43–46.

720 WC: See Grey's "Polynesian Mythology," p. 90.

721 WC: See my conjecture, as to possible meaning of the name kumara, p. 34.

722 WC: See "Trans. N.Z. Inst.," Vol. XIII., pp. 8, 9.

X. The command to the working-party, to act on the favourable moment: lines, 47–48.

XI. Again an address to the kumara sets, still personified; as if mollifying the command just given (somewhat of a lowering nature), and reminding them of their ancient heavenly origin:<sup>723</sup> lines, 49–50.

XII. Another admonition to the working-party: lines, 51–53.

XIII. The work (viewed as) done: lines, 54–55.

XIV. A remark as to Pani's residence in the sky, out of sight: line, 16.

XV. A reminder to Pani, to reward them after the manner of their own readily believing her,—or the ancient legend, etc.,—and, of their having acted upon it: lines, 57–60. (*N.B.* This is the earliest meaning, in this sense, of the word *whakapono*, that I have ever met with. It is now, and for the last 60 years, similarly used by the missionaries and others (also, in the Maori translation of the Scriptures), for *faith*;—the believing the matter spoken of, or taught;—the making-it-to-be-a-reality. A word, however, extremely rarely used in their ancient recitals.) [48]

And here we should also bear in mind, that all this eminently peaceful industrious and pleasing agricultural work was the common yearly occupation of this people,—of the whole Maori nation throughout the North Island, by whom it was heartily loved and passionately followed.<sup>724</sup> To me, the consideration of the manifold useful patient and ornamental industry of the ancient New Zealanders,—their untiring interest, the pains, the love, formerly bestowed upon the scrupulous selecting, the perfecting, carving and decorating of almost all objects of daily use, even when the service itself was most common and material (including their wooden spades and axe handles, their canoe paddles and balers!), was truly wonderful; and all done without tools of iron or any metal, and ever without thought of pay or reward! And all that, too, amid the frequent disturbing and contrary heavy labours arising from fratricidal and murderous wars, building of forts, storming of towns, and general desolating violence, in which their strong natural and uncontrolled passions were too often wholly engaged.

In conclusion, another curious superstition relating to Pani, sometimes observed on the harvesting of the crop of kumara, may also be mentioned. At such seasons, a peculiarly shaped abnormal and rather large kumara root was met with, though by no means frequently (sometimes not one such in the whole cultivation), this was called "*Pani's canoe*" = Pani's medium, between her and the priest and the crop; and was consequently highly sacred, and never eaten by the people. To do so would be to insult Pani, and sure to cause the rotting of the whole crop when stowed away for keeping and winter use in the kumara store-house (a thing to be greatly dreaded); besides other serious visitations on the people. It, therefore, became the peculiar property of the priest, and was set aside to be cooked at a sacred fire as a kind of offering of first-fruits. The finding such a root was matter of great gratulation, for now it was made evident that Pani had heard and visited and blessed them. And as (from what I could learn) such a kumara root was chiefly, if not only, to be found when the crop was a very prolific one (which, indeed, was highly natural); this fertility was also

taken as another proof of Pani's gracious visit, and, of course, placed to the account of the knowing and fortunate priest, who had initiated all things so well as to bring it to pass, and so to secure a good crop!

### 1881 On the fine Perception of Colours possessed by the ancient Maoris.

*Transactions of the New Zealand Institute 14: 49–76.*

[Read before the Hawke's Bay Philosophical Institute, 10th October, 1881.]

In a paper which I had the honour of reading here before you last year, ("On a better Knowledge of the Maori Race,") I alluded to the surprisingly powerful natural faculties of the Maoris; particularly instancing those of Memory, Sight, and Hearing; and ending my remarks in that place by saying,—“their fine discrimination of the various shades and hues of colours—particularly of blacks, browns, reds, greens, etc.,—was truly wonderful. On this subject and its relatives I hope to write a paper.”<sup>725</sup>

I should not, however, have chosen to do so at the present time, (for I had desired to finish a paper on “Hawaiki,” which I had been preparing), had I not seen a paper by Mr. Stack, of Christchurch,—“On the Colour Sense of the Maoris,”<sup>726</sup> in which, according to my certain knowledge and long experience, there is no small amount of error; and believing this, though reluctant to suspend other work, I have deemed it to be my duty to lose no time in bringing my promised paper before you.

And here I would briefly remark, that what I shall now bring forward in this paper is from my own individual experience only; derived, not merely during an extra long period of dwelling among the Maoris, and that before the country became settled, (for others have resided in New Zealand as long, or even longer than I have), but mainly from my having travelled so very much among them; very frequently in parts where no white man had ever been before me; sometimes on the battle-field, both during and after the fight; and always in the additional capacity of a “doctor” or medical man, and ever on foot and with them; always having, also, several of their best head men (chiefs and priests) voluntarily and heartily travelling with me as companions from their own *pa*, or village, to the next *pa*, or halting place, or bounds of their tribe (as the case might be); and all this, too, at a period in their history when *they had no extraneous foreign matters to trouble them or to talk about*. And so I have had very many fine and profitable opportunities of hearing and observing many things that naturally and spontaneously occurred, which otherwise, probably, I should never have known; and which (as far as I know) no other European has ever had so many advantages and opportunities of knowing. Moreover, owing to Mr. Stack's paper, and to do the old Maoris justice, I shall have to relate many pleasing [50] little confirmatory incidents,—more, in number, than I had originally intended to do,—as there is nothing like a concrete example for testing an abstract theory.

723 WC: See, supra, pp. 35, 36.

724 WC: See, “Trans. N.Z. Inst.,” Vol. XIII., pp. 5–10, 33, 34, etc.

725 WC: “Trans. N.Z. Inst.,” Vol. XIII., p. 63.

726 WC: “Trans. N.Z. Inst.,” Vol. XII., p. 153.

**(1.) Of their universal national taste concerning colour.**

I have already slightly touched upon this in a former paper;<sup>727</sup> notwithstanding, I may again state, that the colours of black, white, red, and brown, were the prized and favourite ones,—the purer states especially of each of those colours were highly valued,—to which may also be added yellow and green. Those several colours, and their differing shades, comprised nearly all that pertained to their dresses and personal decorations, to their (principal) houses and canoes, and moveable property generally. Indeed, a chief's house, in the olden time, might truly be called a house “of many colours;”<sup>728</sup> which, within, were artistically and laboriously displayed. Of course, there were very many shades of each colour; as, for instance, of white,—from pure white (*candidus*) to whitish-brown; of yellow,—from bright yellow (*gamboge*, almost orange) to a faint tint of that colour; and of green,—in its many hues exhibited in the several varying specimens of [51] *pounamu* (jade), etc. Each tint or shade of colour bore its own peculiar name plainly and naturally, or figuratively, and sometimes both. Their love, or great desire, for the possession of those colours, is best shown in their zealous and heavy labours in seeking and obtaining them (*infra*).

**(2.) Of their fine general discrimination of the various shades and hues and tints of colours.**

This, with me, was always a very pleasing subject. The bare present writing of what I have seen and heard serves to conjure up a host of pleasant reminiscences of the long past!

727 WC: “Trans. N.Z. Inst.,” Vol. XI., p. 81.

728 WC: In 1844 (on my coming hither to reside) the Maoris built several houses for me; one, in particular, as a library and study, in my garden, deserves a brief passing notice by way of an example. This one was to be built and finished in their best old style (omitting all carved work) without my interference; and, therefore, their skilled old tohungas were gathered together over the job from the interior and as far north as Poverty Bay. The building, composed of two rooms, was 10 feet high to the wall-plate. The frame-work and massy dubbed pilasters were composed of dark old totara wood, which they laboriously dug up from the bed of the Tukituki river, many miles away. It had three separate layers of raupo (*Typha*) in its sides, (besides the outer coating of a stiff and hard, yet fine, Restiaceous plant (*Leptocarpus simplex*)). The raupo was first separated leaf by leaf, without breaking, and so carefully dried; but the panelling work between the pilasters (each panel being about 2 feet wide) was the curious part. First, the horizontal layers of narrow black and red bands, or laths, three of each colour, placed at regular distances; behind these was the close facing of selected yellow reeds (culms of *Arundo conspicua*) longitudinally and regularly placed; to these, and to a cylindrical black rod running down the whole length in front of the laths, the coloured laths were beautifully and elaborately laced by fine white, grey and yellow strips (excessively narrow, frac18; to 1/10 of an inch wide) of kiekie, pingao, and harakeke leaves, each panel being also wrought in a different regular pattern of raised filagree work. For years this house was the wonder of all visitors (European and Maori); Bishop Selwyn often admired it, and so did Mr. (afterwards Sir) Donald McLean, on his first visiting Hawke's Bay as Government Land Commissioner, in 1851; indeed he told me he had never seen its equal; and he also gave orders for a similar one to be constructed for him at Port Ahuriri. This was also done; but it was but a poor imitation, as the skilled old builders were no longer here. In this latter house Mr. Domett, as Resident Magistrate and Crown Lands Commissioner, resided for several years. Mine stood over 25 years, when it was burnt down accidentally.

indeed, I find it difficult to make a selection from many an interesting narration and discussion,—by night around our bivouac fires in the forest and in the wilderness; by day in travelling, and in resting, and (sometimes) when shut up for days together in their *pas* through rains and storms and swollen rivers. Foremost, here, I would mention their accurate description of a rainbow, of all its various colours, and of the difference between a bright and a faint one,—of the *cause* of its being so shown, and of its *meaning*, too (in their estimation),—and of the animated discussion that would sometimes arise upon it; not unfrequently proved by me to be correct (as to its colours) when a double rainbow appeared,—as then the colours were inverted. Their quick discernment of the iridescent hues of the feathers of a pigeon's neck glancing in the sunshine, when snugly ensconced aloft among the foliage of a tall white pine tree; and their subsequent accurate description of them, and their comparison of those changing tints (as to colours) with the ever-varying nacreous ones of the mother-of-pearl of shells (particularly *Haliothis*<sup>729</sup> and some *Trochidae*), and with the delicate evanescent hues of the bellies of several fishes when first caught,—as the mackerel, the scad, and the elephant-fish; and also with the prismatic bubbles and scum of coal-tar floating away on the calm surface of the tide,—which, on a few occasions, some of my own domestic travelling Maoris had early seen at the Bay of Islands. Also, when sitting, resting on the edge of a cliff near the sea, to note their observations on the changes in the colours of its surface caused by a [52] passing cloud; and then to hear of how, in former days, the proper skilled scout<sup>730</sup> perched on a cliff would descry the approaching shoal of mackerel, or *kahawai*, or other annual summer fish, from the change in the colour of the sea, and would direct accordingly the takers with the big seine nets in their canoes.<sup>731</sup> From similar positions, too, we ourselves, when perched on the cliffty heights overlooking the deeply-embayed tidal arms and reaches of the sea,—whether at the Bay of Islands, on the many inlets and branches of the Kawakawa, Waikare, Waitangi, or Kerikeri rivers,—or at Rangaunu,—or at Whangaruru, or at Ngunguru,—or at Kaipara!—or at Whangarei, with its multitude of inlets, creeks and branches,—we ourselves have often received great benefits from their accurate sight, well-knowing, even from a distance, the precise state of the tide on those muddy flats and in those mouths of rivers below, and that solely from the hue of the water there; and, in so-doing we were often saved a considerable part of what was always a disagreeable job. For, in all those places, owing to there being no beaches, and the banks clothed with dense vegetation to the water's edge, with a belt, or thicket, of close-growing

729 WC: Hence it was that the old Maoris devised and fitted out their admirable lure, made of a long cut and carved slip of the shell of the *Haliothis iris*, for sea-fishing with hook and line, particularly in the summer season for the *kahawai* (*Arripis* *salar*); when they paddled their little canoes, each manned by a single fisher, briskly through the water, with their line and lure towing astern. And here, I should further observe, that it was not every shell of the *Haliothis* that would serve the skilled Maori fisher's purpose; no, he would turn over and examine a score or two until he had found one which, to his searching eye, gave the exact tint of colour he required. And just so it also was in their painfully selecting a bit of the same shell for the artificial eyes of their staffs, etc.—See “Trans. N.Z. Inst.” Vol. XII., p. 77, note B.

730 WC: “Huer,” in Cornwall, on the pilchard seine-fishery; and done by the old Maoris, by signs, much as it is still practised there.

731 WC: See “Trans. N.Z. Inst.,” Vol. XIII., p. 44, for an instance.

outlying mangroves, the usual rise and fall of the tide could not be seen.

Their quickness of vision also instantaneously and correctly detected what kind of fish it was that had fleetly passed us at sea, when out together in our boat or canoe, and that more from its peculiar colour, than from its form and manner of swimming. And so with their small fresh-water fishes, many of which closely resemble each other (including not only the various species, but, also, the differing varieties of those species, some of which also change their colours with age, as well as before and after the spawning season); these were all respectively known by their hues and mottlings, and each kind and variety bore its proper distinctive name. More than once, in my early travelling, has some kind Maori with me (either before or behind, in the long straggling single file), gathered a flowering branch of *Solanum aviculare*, and of *Wahlenbergia gracilis*, and of *W. saxicola*, and kept it for me; because his quick eye had noticed the change of colour in their flowers, from blue, and from lilac to white; which change in those two genera is not unfrequently the case: and not unfrequently was my attention loudly called to a large spider (of the species so very common and unpleasant in the open shrubby wilderness) whose main colouring and markings were different from others. Sometimes, also, in our journeyings, we should find a few large stray tail or wing feathers (generally one at a time), all more or less of a common brown colour, but with different light [53] or dark markings; these would be collected and preserved, and talked over, and decided by the older men to belong to the parrot, sparrow-hawk, common hawk, long-tailed cuckoo, wood-hen, bittern, etc., etc. And here I may mention (as being probably but little known), that each separate feather (primaries) of the wing, and also of the tail, bore its own distinct and proper name. Distant trees, whether standing alone, or in clumps and thickets, or growing with others in the forests, were also accurately known by their colour—their peculiar and specific hue of green. So were distant plains, and marshes, and open hills of a country wholly unknown to us; which, sometimes, lay before us, stretching out some miles away! Such would be sure to form an interesting theme to all of us; particularly to my Maori companions, who (poor fellows) always had to traverse those unknown and trackless wilds,—hills, plains, and marshes,—with bare feet and legs; not to mention our often not knowing where sunset would find us travelling, and so compel us to halt for the night. From their general hues alone the Maoris could accurately tell whether those far-off unknown places were covered with a vegetation of fern<sup>732</sup> or flax,<sup>733</sup>—dwarf *kahikatoa*<sup>734</sup> or mangrove,—*toetoe*<sup>735</sup> or *raupo*,<sup>736</sup>—*wiwi*<sup>737</sup> (species) or *toetoeupokotangata*,<sup>738</sup>—or, if of grasses, whether *patiti*<sup>739</sup> or *raumoia*.<sup>740</sup>

A remarkable instance of their detection of a change of colour in the distant and unknown landscape, I may briefly

732 WC: *Pteris esculenta*.

733 WC: *Phormium*.

734 WC: *Leptospermum scoparium*.

735 WC: *Arundo conspicua*.

736 WC: *Typha angustifolia*.

737 WC: *Juncus* (sp.).

738 WC: *Cyperus ustulatus*.

739 WC: The commoner perennial grasses.

740 WC: *Spinifex hirsutus*.

relate,—especially as it completely bothered us all at first sight! It happened in 1845, when I first visited the South Taupo country from Hawke's Bay. On this occasion we were without a guide; we had advanced some way into the interior, and had just sighted the high open lands of Taruarau, when the strange general hue of their vegetation bearing a slightly reddish cast immediately attracted our attention. That country was then wholly unknown to all of us, and so was its vegetation; moreover, it was trackless. Among my party were some Maoris who had travelled much with me throughout the island, but we had never before noticed anything like that. Some of the party said one thing, and some another, and there was a long and earnest discussion carried on, while we were slowly journeying thither, as to what it could possibly be. Arriving there we found the reddish colour to be caused by a low red sedgy Cyperaceous plant, with long narrow grass-like leaves, a species of *Uncinia*,<sup>741</sup> which gave the prevailing reddish hue to the vegetation round about. [54]

But, far above all, their fine discrimination of delicate hues and shades was correctly shown in their nice distinction of the various tints of the flesh of the several kinds of *kumara* and of *taro* when cooked; also, of the varieties (in colour) of the *koroi* berry (fruit of the *kahikatea*—white pine tree), and of the *karaka* berry (*Corynocarpus laevigata*) in their stages of ripening; and of the several shades and hues of their dressed flax during the drying and bleaching process; for all of which colours, or fine shades of colour, they had distinctive names. And here I may relate a notable incident which once happened; it pleasingly surprised me at the time, and often since on recollection. I was travelling, as usual, in 1845, on the coast, and was staying at Mataikona, near Castle Point, then a populous village. In talking with one of the oldest chiefs of the place about the *taro* plant, and its varieties, he said that he had long ago seen and cultivated the sort called *Wairuaarangi*,<sup>742</sup> but that it had long been lost to them. Now I had also known that peculiar sort when residing at the north, and I had more than once noticed the delicate and curious pinkish hue of its flesh, so different to the other sorts; and wishing to test my old friend's knowledge, I enquired particularly of him its colour, and his answer was a beautiful one, so clearly expressive; he replied,—“*I tu-a-kowhewhero tonā kiko*.” A phrase exceedingly difficult to render as briefly into English; but meaning, that its flesh had a pinkish appearance.<sup>743</sup>

741 WC: In sending specimens of this plant to England, I had named it *U. rubra*; which Boott, in describing it, also adopted. I see that Dr. Sir J. Hooker (in the Handbook of the New Zealand Flora), speaks of it as being “red-brown when dry” but it is much more red when living.

742 WC: See “Trans. N.Z. Inst.” Vol. XIII., p. 36.

743 WC: *Wairuaarangi*—the proper name of this variety of taro is so highly expressive (like most special names among the old Maoris) that I am tempted to give its full meaning, and to offer a few words upon it. *Wairuaarangi*, lit. Reflection-from-(the)-sky: meaning, the light reddish-pink tint, as sometimes thrown of an evening over the features of the eastern landscape, from a glowing sunset; also, the more distant, faint, reddish hues of the rare ends of an aurora australis. This colour (as I have sometimes seen it of a summer's evening), when cast on or reflected back from white cliffs or mountain snow, or from an extensive flat filled with the dead feathery panicles and culms of the large cutting-grass (*Arundo conspicua*), is exceedingly like that of the pink flesh of that peculiar variety of taro; and its poetical beauty, as well as its truthfulness, is still further enhanced when we think (as the old Maoris did) of that beautiful colour as emanating

(3.) *Of their names for colours, and their various shades.*

Here I would first observe:—

(1.) That, according to the genius of their expressive language, many common nouns are as largely used for indicating a single species, or peculiar [55] individual of a family,<sup>744</sup> as they are for a stirps, family, or genus; and commonly so by way of laconism, ellipsis, abbreviation, or carelessness; always, however, perfectly well understood among themselves. Hence, owing to this common usage, appellatives and proper names become gradually dropped, and fall into abeyance; though, *as the Maoris formerly were*, never wholly forgotten.

(2.) That being a truly natural observant race, and fully acquainted with nature, they often, or generally, used her peculiar productions and appearances to express colour, or the exact hue of colour required;—there was no mistake here, among themselves. For in the highest minds a single descriptive word, or sign, is sufficient to evoke crowds of shadowy associations.

(3.) That from *the particular shade of colour of a thing*, they often gave to other and very opposite things their names,<sup>745</sup> as in the foregoing example of the pink-fleshed taro. [56]

from a Personage, (the Sky), and their great, first, and common Father.

I have before had occasion to observe that, with the old Maoris, the name of a thing meant a great deal—very much more, concerning its qualities, uses, etc., etc.—than we at best can possibly suppose. Hence, too, the incessant demand from them in the early days, on seeing any new thing, whether vegetable or animal, especially if living, of—"the name," "the name?"

744 WC: Harakeke—flax, (of which they have more than 50 sorts, or varieties, every one bearing its distinct and proper name). Ika—fish, (nearly all fishes; each, however, has its own proper name).

Kai—food, (also, all articles of food; though each one has its own proper name).

Kahu—a garment, (all garments, of which they had a great and varied number, all bearing proper names).

Kowhatu—a stone, (all stones, etc.).

Hua—fruit, (of plant, tree, bird (egg), fish (roe), etc.).

Rakau—tree, (of all trees; yet each one has its own proper name, and some several names for various parts of the same tree, which are often given for the colour).

Pipi—a bivalve shell-fish, (and generally for all salt-water bivalves; each one, however, has its own distinct name).

Pupu—a univalve shell-fish, (ditto).

Kumara—sweet potato, (yet many sorts, all bearing proper names).

745 WC: Of which a few instances are here given by way of example:—

Paua, the black flesh of the *Haliotis*; also, a black sunburnt potato.

Mangu, mamangu, and mangumangu, black (colour); also, ink, blacking, etc.

Tawatawa, the mackerel, and tamure, the snapper fish; also, a peculiar appearance of the sky from cirrus and cirro-cumulus clouds, through which the blue appears something like the deep blue wavy marks on the back of a mackerel freshly caught (this term of mackerel-sky, is also given to it by Europeans); also, resembling the dark wavy lines on the flesh of a fresh snapper under its skin when cooked.

Toroamahoe, the white-skinned root of the mahoe tree (*Melicytus ramiflorus*); also, a variety of whitish skinned kumara of exactly the same shade of colour.

Pokere kaahu, a dark purple variety of kumara;—from pokere, the dark flesh of the fruit of the tawa tree (*Nesodaphne*

(4.) That their principal proper terms for colours were often compounded ingeniously and beautifully, in accordance with the expression and idiom of their language:—

(a.) By reduplication, and by half doubling:

(b.) By adding qualifying adjectival terms for intensifying or lessening; the power of which was further heightened or lowered according to their position;

(c.) By the aid of several apt particles of different degrees:

(d.) By other expressions also adjoined, of admiration, or depreciation. (See *Paradigm*, APPENDIX I.)

5. That certain colours took their own proper intensitives, etc., which could not be used with other colours.

(4.) *Of their great labour, patience, thoughtfulness, and skill, exhibited in their seeking after and obtaining the various shades of colours; often labouring to a nicety to procure them.*

Hence (after many trials) they had succeeded in getting their brilliant black and red dyes; the former, in particular, being often envied by their early discoverers and visitors and their several European peoples. And here (as I have formerly observed when treating on another subject), we [57] must never lose sight of this great, this astonishing fact, namely, that the ancient Maoris knew not of the use of iron nor of any metal, neither had they any vessel which would stand fire!

Nevertheless they knew that by a second or even a third process, as well as by the application of heat in dyeing, they should increase the depth of the colour sought. To me it was really a wonderful sight to see a woman patiently engaged in her work of this kind; (take an instance)—with nothing better at very best than a large *paua* shell (*Haliotis iris*), with its natural holes artificially stopped up, as a vessel to hold her dye-liquid (red-brown) and the article to be dyed, but only a very small quantity at a time of yarns of flax (*Phormium*) scraped and beaten and carefully prepared,—this shell with its contents was warily placed on hot embers

tawa), and ka ahu, to proceed towards; to grow up to; to become like to.

Parakaraka, the orange-red colour of the fully ripe karaka fruit; also, a light reddish-orange variety of kumara. [N.B. This variety of kumara has ever been believed by me to be the identical sort seen and obtained by Cook and his companions, and well-named by them *chrysorrhizus*.]

Pohutukawa, a tree (*Metrosideros tomentosa*) having reddish wood; also a variety of kumara with reddish flesh of just the same shade of colour.

Whero, red (colour); also the rectum protruding, etc.

Kumu, the anus; whakakumu a red variety of kumara; kumukumu, the red-backed gurnard (*Trigla kumu*).

Kawakawa, the *Piper excelsum* shrub; with glaucous green leaves; also, a particular variety of jade-stone, having just the same hue of green.

Pounamu, the green jade-stone (general name); also, a common green glass bottle, and (with the Ngapuhi tribe) a peculiar potato, planted in February and ripe in May: (infra, § 6).

Waikura, the reddish stagnant water of some sluggish water courses and pools, arising from a deposit of protoxide of iron; also, rust on iron tools, etc.

Waro, charcoal; also, mineral coals; a very dark cave; a black abyss.

Pukapuka, the shrub with large leaves, white underneath, (*Brachyglottis repanda*); also, a book; white paper, etc.

to raise it to boiling heat, and to keep it so, and there long and carefully watched and tended, and the few yarns in it taken out and repeatedly tried, until the proper shade of colour sought was obtained! which done, the operation had to be frequently carried out until a sufficient quantity of threads were died. Such always served to remind me of what we are told by Pliny<sup>746</sup> and others, respecting the tedious process followed by the women of Tyre in obtaining the famed Tyrian purple dye from the *murex* shell-fish,—“a tiny drop from each living fish!”

#### (5.) *Of their light colours.*

These were various, and were both natural and artificial.

The *natural* ones were several; namely, of pure white,—the snow, the clouds, and the surf; the large white-leaved *pukapuka* shrub (*Brachyglottis repanda*), and the peculiar white-fronded fern-tree (*Cyathea dealbata*); and, strange to say, such out-of-the-way recondite objects as the white milky sap of the plant *Euphorbia glauca*, and the white meat (flesh) of the tail of the crayfish when cooked, and, also, the whiteness of living human teeth (all these I have heard used by way of naming, or of comparison); the plumes of the white heron, and of the gannet; the small downy feathers of the albatross, and of several gulls and terns; also, of another shade of white, the very thin and delicate epidermis of the long leaves of the *tikumu* plant (*Celmisia mackaui*), and the prized long hair of the tails, and also the skins, of their little white dogs. Of yellows, the long flowering reeds, or culms (*kakaho*), of the *toetoe* plant (*Arundo conspicua*); and the harsh leaves of the gamboge-coloured *pingao* (*Demoschænus spiralis*).

The *artificial* ones were also many, and were obtained in various ways, mostly by washing and beetling, and by bleaching; namely, their dressed flax fibre and yarns for weaving their mats, and for twisting into cords, [58] lines, and threads, of almost all light hues,—from that of a light fawn, and a whitish-brown, to a dirty or dull white; their selected flax strips, tassels, and fringes, with the yellow epidermis unbroken save at regular distances; the narrow bleached strips of the leaves of the *kiekie* plant (*Freycinetia banksii*); the bleached inner bark of the celebrated *aute* (paper mulberry), and, also, the inner bark of the little *autetaranga* shrub (*Pimelea arenaria*).

And so particular were they (at times), that I have known them to patiently undo their panels of laced-up reed-work, after having laboriously fixed them up in their places in the chiefs' houses, merely to take out a stained reed or two which did not harmonize in colour with the adjoining ones;—though this portion of that work (*i.e.*, the proper selection of the reeds) was usually done by going over them one by one, and by joining them telescope-fashion, before they were carried off to be fixed in their proper places. And just so the women, in the weaving of their best dress mats (one of which always took a long time, often over 2–3 years), they strove hard to have the bleached yarns of flax in the body of the fine garment, though prepared at different times and seasons, all of one hue of colour throughout; often while weaving it rejecting a yarn or strand on account of a slight difference in the colour. Indeed, so sharp were their well-trained eyes at this work, that they could distinguish a

difference in the shade or hue of the flax-yarns and threads when I could not.

Two little incidents, illustrating their high powers of discerning the light shades of colours, may here be mentioned. (1.) Nearly 50 years ago, when some of the Maoris had learned to write, and paper for that purpose was in high request, they preferred the white or cream-coloured paper to the foolscap writing paper having a light cast of blue, though the Mission annual supply of writing paper was composed of this latter sort, and it was stouter and stronger and better fitted for their use. (2.) When the first canaries were introduced into New Zealand, and the few Maoris who had seen them in the Bay of Islands were describing them to their friends who had not seen them, and some said the colour of the new bird was that of the *kowhai*<sup>747</sup> flowers (*Edwardsia grandiflora*), others corrected them by saying, “No; not so; rather that of the paler *whanariki*” (sulphur), with which, in its pure native state, they were well acquainted.

The beautiful natural light colours of the bellies of several living fishes—silvery, dead white, slightly iridescent, and with a faint tinge of blue,—were also much noticed and remarked on; and so were the light colours, internal and external, of several shells; insomuch that not a few of them had early passed into their proverbs and songs.<sup>748</sup> Hence, too, they were [59] quick at detecting any light coloured variation in the plumage of birds, (well-knowing the few genera that sometimes produced albinos), and in the foliage, and fruits, and wood of plants, as well as in shells; all such, and every variety of colour, bore its own proper name.

A little botanical incident bearing on this subject may be briefly told:—On one of Mr. A. Cunningham's visits to New Zealand, he went to the *kauri* forests botanizing. While there he heard from his intelligent Maori companions of two kinds of *kauri* known to them, but only by the difference in their names, arising from the variety in colour of their timber. This set him on the search after the *new Dammara* pine, No. 2! but after much toil and enquiry, and the obtaining of a quantity of foliage specimens, he gave it up, concluding that such slight difference in colour (which did exist) might arise from the soil, or situation, or from the varying specimens of timber having been cut from both the sunny and the shady sides of the same tree; this latter opinion, however, the Maoris (and the few European sawyers then at work among them) always denied. It was one of my dear friend's last bequests to me to follow that enquiry up; but, like himself, I never could make anything of it. There is, however, a difference in the colour of some of the *kauri* timber, exclusive of the prized “mottled” kind, for which the old Maoris had, as usual, their own proper distinctive names.

#### (6.) *Of their dark and sombre colours, not black.*

Of natural ones, they distinguished at a distance the heavy dark-green of the clumps or thickets of some trees, such as *karako*, *mataii*, etc., and correctly named them: also, of their dark-coloured, edible fruits, when ripening, high up on their topmost branches, as of the *mataii* pine (*Podocarpus spicata*),—so as to save themselves the trouble of a high, dangerous, and always disagreeable climbing, to examine

746 WC: Pliny, Nat. Hist., lib. ix., c. 60–63.

747 WC: See “Trans. N.Z. Inst.” Vol. XII., p. 99.

748 WC: See “Trans. N.Z. Inst.” Vol. XII., p. 142.

them. The peculiar black-blue colour of the sky on certain nights, dependent on the state of the atmosphere; also its colour at various times of the night; and particularly the two dark pear-shaped spaces in the Milky Way, near Centaurus and the Southern Cross (called *Coal-sacks* by the early navigators); also of the ever-varying storm-clouds, for which they had more than 40 names; and the dark colour of the sea, in calm weather, over rocky shoals, and in deep holes off the coast; the slight shades of difference between the colours of their own dark hair; the difference between the colours of several dark-plumaged birds closely allied, as of various shags and gulls, and also of some forest birds; the difference between the varying blue-black and brown-black colours of the backs of several of the larger sea-fishes and of eels; and were particularly knowing in the matter of dark-green<sup>749</sup> coloured "sun-burnt" potatoes, some [60] kinds or intensities of which they preferred for seed. They knew at sight the difference in the colour of blood recently and some time shed; and, also, from the hue of the rich purple juice of the fruit of the *tutu* shrub, (when hospitably set before them in open calabashes in travelling in the summer season), they perceived at a glance whether it was freshly made (when it was highly esteemed), or whether it had stood a day or two; and they accurately determined the age of severe bruises on the human body from the difference in their colour. From a great distance off they knew what was burning by the colour of its smoke, whether arising from dry or green fuel, whether from swamp, or plain, or forest vegetation; and they also knew from the colour of soot what it had been obtained from:—this last was formerly a matter of great importance to them in the business of tattooing.

Of colours of this class artificially produced were the dark-red dyes of various shades obtained from the bark of the *tanekaha* (and *toatoa*) tree (*Phyllocladus trichomanoides*), used in dyeing yarns for the decorated borders of their best flax garments, and in staining their superior furniture, walking-sticks, etc., etc.

#### (7.) *Of their black colours.*

Of all their artificial colours, black was the one which they knew how to make and impart to perfection. This colour they had naturally around them,—in the mineral, the vegetable and the animal kingdoms; in the first in coal, and in the black oxide of manganese, and in many species of rocks, as in obsidian and basalt; in vegetables in the common Fungi of the forest,—as *Antennaria*, *Capnodium*, etc., which sometimes completely covers the trunk of a large tree, and gave rise to strange tales and fancies; and in the animal kingdom, in the plumage of some birds,—as of the *tuii*, the *tieke*, the *huia*, the *torea*, the *kawau*, and the back of the *pukeko*; in the flesh of the shell-fish *paua*, and of the *rori*; and in the black internal skin (lining mouth and abdomen) of several fishes,—as the mackerel, herring, mullet, etc.

In their own peculiar artificial dyes of black, of various shades of intensity, used for dyeing garments, etc., they have never been surpassed; some of their black dyes being strikingly deep, pure, brilliant, and lasting. All their earlier European visitors were astonished at the intensity of this colour used as a dye among them. For dyeing black their flax threads yarns and garments, dressed and undressed, and also their whole big garments (thick cloaks) made of the

fibres of the *toi* (*Cordyline indivisa*), they generally used (as is now well-known) the barks of two closely allied trees, *hinau* and *pokaka* (*Elaeocarpus dentatus*, and *E. hookerianus*), with a mordaunt composed of aluminous clay; they also used the bark of the [61] *tutu* shrub (*Coriaria ruscifolia*) to obtain a blue-black, which was sometimes used for fancy and ornamental work,—as in weaving graceful little baskets, etc., for a first-born or beloved child,—it had a very peculiar hue; and for the purpose of body-tattooing they used various kinds of charcoal, both animal and vegetable, obtained from several peculiar sources, and manufactured in a highly curious manner with much labour and skill. For colouring black their narrow and thin wooden slips, or carefully prepared laths of totara wood,—with which they plentifully ornamented the interior panels on the walls of their chiefs' houses, in order to set off to advantage the white and yellow filagree work interlaced thereon to regular patterns, as well as the lighter yellow reeds beneath,—they passed the laths one by one repeatedly and quickly through a fire, partly charring the outside, until they had made them of the proper hue; this done the slips were well rubbed and made quite clean and glossy, and fixed in their places.

#### (8.) *Of their sober neutral colours neither dark nor light.*

These, composed of various shades and of nearly all colours, they knew well, both naturally and artificially. It was in this particular portion of their discriminating knowledge of the shades of colours, that I early felt the more deeply interested, and often indeed proved their correct descriptions of them, with no small degree of astonishment; for by it I was not unfrequently led, in my early botanizing, to note down and to obtain some new plants or varieties of plants. Even while writing this, I well recollect their statements to me (40 years ago and more), concerning certain plants,—as various species of rushes and of sedges, of scented *Hepaticæ*, of river *Confervæ*, and of sea-weeds, and particularly of a *Chara*, and of a curiously-coloured species of *Conferva* (possessing a steel-blue cast of colour), which I was led to seek in out-of-the-way holes, through casually hearing from an old woman of their different shades of colour. Hence, too, they discriminated between the different sorts of *kumara*, and of *taro*, when the plants were young and growing, by the hue of their leaves (and also of the various kinds of potatoe), and that when travelling along by the plantations, outside of the fence. Also, the varieties of New Zealand flax (*Phormium*), more than fifty in number, were detected by the hue of their leaves,—all being alike green, yet all slightly differing in the shade of that colour, and only three or four of them (at most) in the shape and size of their leaves. I have sometimes been amused, when travelling, in hearing the descriptive remarks (among others) which would arise from my party, on the baskets of cooked potatoes being placed before them, kindly yet hurriedly boiled on their arrival at a village. On the top of each basket, according to custom, was placed a handful of boiled greens (of sow-thistle tops, or of wild cabbage-sprouts), of such as [62] were at hand; and the remarks would arise simply from the difference in the colour of the greens,—some being well-done, and some (hurriedly) half-done; some freshly gathered, and some stale; the food having been quickly cooked for them by two or three different persons; the little baskets severally brought in; and, according to etiquette, none touched until all were in and placed (as, indeed, with us). It was owing to

749 WC: See note § 3, clause 3, supra; hence that name.

this finely-developed faculty that they knew so well, and from a distance, whether the annual summer luxuries obtained from the female flowers of the *kiekie* plant, and from the pollen of the *raupo*, were in season, and ready for collecting or not,—through the slight change in the green of the tips of their leaves,—and so saved themselves the labour of climbing, etc., purposely to ascertain.

And here I may mention another little botanical incident, which indeed not unfrequently occurred in our deep forest travelling. And to those present who may have travelled through, or even only entered into, an uncleared standing New Zealand forest in all its pristine glory, such a relation may almost seem marvellous. In those umbrageous forests the large trees are generally completely covered with all manner of plants growing thickly on their trunks and branches, as freely, or even more so, than if on the ground beneath. And there, sometimes, nestling among them, yet far away, high up, would be a rare fern or *Lycopodium*, or some small epiphytical shrub, as *Pittosporum cornifolium*, or a *Loranthus*, or a *Viscum*, or a still smaller plant of *Peperomia*; and yet all those (and many more) were severally made known to us below by their slight difference in hue; and so, through the quick and fine discernment of my Maori friends, I sometimes gained some desirable specimens. The obtaining of one such I would more particularly relate, as it is an excellent example of what I have just mentioned, and one never to be forgotten by me. It was my discovery (at the north, in 1841), of that rare pine, *manoao* (*Dacrydium colensoi*, Hook.). I had heard of it from the old Maoris, but none had seen one for several years, as they grew singly in the dense forests, and the young Maoris did not even know it! On one occasion, however, when travelling through the trackless forest near the coast between the Bay of Islands and Whangarei, we (or rather one elderly Maori then with me) kept a look-out for it. Now this “pine” in its foliage, etc., closely resembled some others of the class,—as the *kahikatea*, the *rimu*, etc.,—especially when at the distance of the top of a high tree, but the keen eye of the old Maori detected it at last (though I, and the other younger Maoris with me, could not make out any difference, owing to the distance). And then, for my pocket-knife, he undertook the ugly job of climbing the tree, and breaking off a branch for me. In this case it was more the peculiar shade of green of the foliage, though distant, than anything else [63] that distinguished the tree in his sight; the fruit of this species being very small and concealed, and not at all showy. Specimens from that branch I subsequently sent to Sir W.J. Hooker, and they were described by him with a drawing.<sup>750</sup>

It always seemed (to me) as if the old Maoris had a peculiar natural inclination, or bias, towards what I have called neutral colours. This, I thought, was shown,—(1.) in their sometimes choosing to line their large public reception houses with the small, light-brown, narrow stalks of the common fern (*Pteris esculenta*), all cut to one length, and placed horizontally and closely, and built up, or interlaced together, in separate panels between the pilasters of the building, with a very great deal of care and trouble:—(2.) again, in their sometimes preferring to line the roofs of their dwelling-houses and *kumara*-stores (*i.e.* the first layer of thatch placed upon the white rafters), with the large green fronds of the *nikau* palm (*Areca sapida*), which were regularly placed on while fresh, and their long narrow

pinnate leaflets neatly interlaced; these, which were green at first, soon became of a uniform dark-brown colour on drying, serving remarkably well to set off to advantage the light-coloured rafters of *kauri*, or of *tawa* wood. This manner of roofing, chiefly obtained at the north, among the Ngapuhi tribe, where the *totara* timber was not so common as at the south:—(3.) in their dingy-looking *kiwi*-feather cloaks, and in their common, slightly-coloured, (dyed) flaxen ones:—(4.) in the brown parrot, and dark pigeon plumes, used largely for their war-canoes:—(5.) in the women wearing around their necks little *satchets* composed of the finely-mottled neutral plumage of the *whio* duck (*Hymenolaimus malacorhynchus*), and of the elegantly flecked, or pencilled, back plumage of the male *putangitangi* or paradise duck (*Casarca variegata*):—and (6) in their, sometimes, only lightly dyeing their prepared strips of undressed flax for their fancy baskets, so as to become of a dark dove, or drab, or even a light slate-colour; and then, in weaving them, to form many kinds of regular chequered patterns, by ingeniously turning sides to the said strips in the weaving; giving the whole, when finished, somewhat of a damasked, or mosaic, appearance, owing to the difference of the reflection in the hues of the one colour, arising from the more glossy upper skin of the flax-leaf regularly interwoven contrasted with the duller appearance of the under and slightly scraped surface of the same; hence, too, it was, that the skilled old lady-weavers were always mightily pleased with the in-woven damasked pattern of a common unbleached linen table-cloth:—and, also, (7) in their pleasingly weaving together the undressed leaves of widely different fibrous plants—as of New Zealand flax (*Phormium*), of [64] *Astelia* (sp.), of *kiekie*, and of *pingao*,—collected from opposite and distant habitats:—some from the deep forests (climbing the highest trees), some from sandy dunes and sea shores, some from cliffs, and some from marshes; and all torn into regular-sized shreds, and dried, and woven in various patterns, into one basket! often causing it to possess a very agreeable appearance from the various hues of colour; though, sometimes, the difference in the colour of some of the strands obtained from various plants was so slight as not to be readily distinguished at first sight by the eye of a stranger,—not without inclining the basket at its proper angle towards the light so as to reflect it.

#### (9.) *Of their striking, contrast, and gaudy colours.*

These, though various and often contrary, yet not many in number, I have taken together; and that because they may all (as formerly used by the old Maoris) be well included under the one term of *striking*; *i.e.*, immediately catching the eye and arresting attention.

And here their red colour, in its various shades of richness and depth, must take a first place. In nature around them, they saw plenty of a red colour,—in the rainbow, and in the gorgeous hues of the clouds at sunset; in some of their birds,—as in the red beaks and feet of the pigeon, the oyster-catcher, and the blue swamp-hen, and in the red feathers of the large parrot, and on the heads of the two species of parakeet; in their fish,—as the red gurnard, the snapper, and the crayfish; in many of their seaweeds; and in the flowers and small fruits of several trees and shrubs. All those reds differed in hue, etc., from carmine to vermillion, and from bright- to dull dark-red.

750 WC: Vide, “London Journal of Botany,” Vol. I., p. 301; and, Hooker’s “Icones Plantarum,” Vol. VI., t. 548.

Red, as already observed, was one of their national colours; yet, its use was, in a measure, limited; and this, I think, is to be attributed to its having been originally deemed a sacred (*tapu*) colour; which, in connection with their cosmogony, very likely first arose from observing the brightest colour of the rainbow (also a personage), and of the heavens at sunset, and sometimes preceding sunrise. They used this colour in its mineral state only extensively and commonly for their war-canoes, their chiefs' private and their village big reception-houses, their *kumara* storehouses and the large carved images on the outer fences of their *pas* (towns and forts), for their grave fences and monuments, and for their boundary and other raised cut commemoration posts: all of which were more or less public and superior matters. This mineral colour was also used, both by male and female chiefs, for ornamenting or staining their persons, and also their clothing mats, especially on great public occasions and times of ceremony. To obtain this mineral red colour cost them much patient labour and no [65] small amount of skill in its preparation; as all the several varieties of it were only found deposited in very small quantities, whether in the still and slow-running waters, or in the earth; or deposited as minute crystals and rust-like dust between small layers of shale in some dry cliffs. To relate the several long and tedious processes of collecting, roasting, or baking, etc., etc., though highly interesting, would take up many pages. And this toil was not unfrequently increased through their not at first obtaining the true shade of red they wished for, hence they patiently repeated their work. Those various hues of red colour all bore different names; the brightest and purest was very highly prized. Notwithstanding, they never adorned their hair with red flowers, or with red feathers<sup>751</sup> from their birds; these latter (obtained from the abdomen and under the wings of the big parrot), were used by them to decorate the heads of their staffs of state (*hani* and *taiaha*), for which purpose they were neatly woven into, or stitched on to, a bit of flaxen cloth woven expressly for that purpose.

And here it may be remarked, that on the early coming to New Zealand of Europeans (before the establishment of the colony), and their trading with the Maoris, they did not care to select red wares, save in the matter of red worsted cravats, and red sealing-wax; the former they generally unravelled to weave it into the borders, etc., of their best flax clothing-mats, and the latter they used as a base for the fang of the shark's white tooth which the chiefs usually

751 WC: This was the common custom among all the tribes; yet a legendary incident showing the very opposite, may be briefly noticed; particularly as a proverbial saying of some power and often in use is said to be founded on it. On one of their famed "canoes" from "Hawaiki" reaching the shores of New Zealand, the chiefs on board saw the littoral pohutukawa tree (*Metrosideros tomentosa*) bearing a profusion of red blossoms; then one of them named. Tauninihi flung his own red (feather) head-ornaments into the sea, in order to re-decorate his hair with those beautiful red things before him, saying, "Those on land were far better!" but, on gathering them, they fell to pieces, and he discovered them to be only mere flowers! and was, consequently, much chagrined. After this, his cast-away red head-dress was washed on shore at a place near by, and found by another person named Mahina; who, on Tauninihi seeking to recover it from him, refused to give it up, saying, that it was a waif washed on shore and found by Mahina; which saying also settled the matter. This sentence became a proverb, and was always used by a Maori on finding anything; and through his so doing, the claim to retain it was usually allowed. No doubt there is a far deeper meaning in this ancient story than what appears on its surface.

wore suspended in their ears; and, also, further to ornament the four mother-of-pearl eyes of their carved staffs of state (*supra*). Subsequently, however, when red articles of clothing both woollen and cotton were brought for sale, and (for a time) became more eagerly sought after, the Maoris could not be deceived with the cheaper *common dull red* handkerchiefs, though stouter in quality, instead of the brighter Turkey-red ones. [66]

It was owing to their quick and correct perception of the several hues of red that they often saved themselves from loss and disaster, and from much extra and dangerous labour. As, for instance, in their knowing from the *peculiar red* of the clouds and sky *before* sunrise of the coming change in the weather, and so postponed their deep-sea fishing, or voyage by sea, and sometimes their journey also by land; as they always commenced their expeditions very early in the morning: and, just so, again, at sunset, they knew by the red hue of the clouds, etc., what weather was at hand, and if stormy, then they drew up their canoes, and collected their nets, and arranged their matters accordingly. Indeed, a whole paper might be written on their descriptive powers and opinions concerning the colours of the clouds, their changes, and their portents, and the speedy alterations in the approaching wind and weather (exclusive of their many superstitious notions), of all which they had evidently made a long natural and useful study, in which their remarkably tenacious memory assisted them greatly; every variety in colour (as well as of form, though in a much less degree), was critically scanned, and bore its own proper name. For my part, I confess, I never could learn those nice differences; though I had always found the old Maoris to be correct in their weather prognostications. Also, in the climbing of the high white pine (*kahikatea*), *totara* and *rimu* trees in the forests, to obtain their fruit (a work always attended with more or less of danger), for they readily discerned from below whether the fruits were quite ripe, though very small, from their shade of red colour; and so with the *karaka*, *poroporo*, *kawakawa*, *rohutu*, *kohia*, and other fruits, which are orange-coloured when fully ripe. This last, being a high-climber, was only found bearing fruit on the tops of their highest trees; from its seeds they obtained one of their choicest anointing oils. And here, in speaking of orange-colours, I may also mention the discussions I have known among the old Maoris relative to the proper hue or colour of the wattles of some of their birds (e.g. the *huia*, and the *kokako*), which led me to believe that their wattles varied in the intensity of their colour owing to the season of the year, or that those of the male birds were of a different shade of orange from those of the females.

The various sorts of the red-skinned *kumara* tubers,<sup>752</sup>—light-red, dark-red, purple-red, reddish, etc.,—were also all well-known and accurately distinguished. Their experienced eye also saw, at a glance, the difference in the two shades of red exhibited in the flower and the fruit of the *puriri* tree (*Vitex littoralis*), and accurately described them. And the planet Mars [67] was also distinguished by the old Maoris from the other planets and stars by its redness. Hence, too, they very quickly detected the alteration in the colour of the face and of the eyes,<sup>753</sup> arising from bashfulness, apprehensiveness, or shame, or from concealed vexation or open anger; and not unfrequently plainly told the actor or

752 WC: See, "Trans. N.Z. Inst.", Vol. XIII., p. 34.

753 WC: See, "Trans. N.Z. Inst.", Vol. XII., pp. 124, 138, etc.

sufferer of it! to his, or her, further vexation and discomfiture.

Blue was another colour which the women and young men sometimes used with striking effect for ornamenting their faces, necks, and arms; this colour they obtained from two sources, one mineral and one vegetable, but it was very scarce. The mineral, in the state of a fine clay or powder, was but rarely found at the north, and then by chance, in some cold swampy grounds having a clay subsoil, and there only occasionally, adhering in small quantities to the roots of some cyperaceous plants; when pure it was of a most beautiful hue of blue (ultramarine); the only indigenous natural productions known to me at all resembling it in colour, were the lovely blue berry of *Dianella intermedia* (when in perfection); the blue tints of a living Medusa (*Physalis pelagica*?—"Portuguese-man-of-war") often found on our outer sandy beaches in the summer season; and a portion of the blue plumage of the kingfisher; this colour was a still more brilliant blue than the breast of the swamp hen (*Porphyrio*). In the early summer season the youths of both sexes ornamented their faces with the light-blue pollen of the *Fuchsia* flowers,—much, indeed, as they also did with the orange pollen of the New Zealand flax, but this latter was not sought out purposely for face decoration as the former one was, but used, or accidentally smeared, in their sucking the honey-like liquid from the perianths of the flax. Of pure blue colours, however, the Maoris had but few naturally, save in the sky<sup>754</sup> and (at times) the changeable sea; in the breast plumage of the swamp [68] hen, the little blue penguin<sup>755</sup> (*Eudyptula*, sp.), and the kingfisher; in the mackerel, in a Medusa (common on the sandy sea-shores in summer) and in a few marine shells both uni- and bi-valve; and in two or three inconspicuous flowers of small plants, as *Wahlenbergia* and *Teucrium*; *Colensoa* also bears a blue flower, which is by far the largest of them all, but it is very local and scarce, being only found in a few spots between Whangaroa and the North Cape. Sometimes, though rarely, a chief would wear a portion of the blue plumage of the swamp hen dangling in his ear as an ornament.

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754 WC: Here I would remark, that it was always my opinion—I might say, my well-grounded belief—that to the old Maoris the unclouded midnight sky did not everywhere appear to be of so dark, or so clear, a blue as it does to us,—owing to the superior strength of their far-off and piercing sight, through which they saw very many more of the smaller stars, and even nebulæ, than we did, or could. I have already mentioned, in a former paper ("Transactions," Vol. XIII., p. 63, note) my having proved their seeing with the unassisted eye Jupiter's satellites; and I have also repeatedly proved their seeing not only the "seven" stars in the cluster Pleiades (which was one more than I could ever see), but even more!—eight, nine, or ten. And so, again, in some parts of the Milky Way,—the nebula in Argo Navis, and in Orion,—the Magellanic clouds, etc., etc., all appeared to them more clearly defined, more starry (if I may so say), than to us. Still, their very expressive proper name for the intense blue sky—kikorangi (on which and its relatives a chapter of interesting philological exegesis might be written) must be borne in mind. (I believe that I was the first who discovered, or unearthed, and brought into early notice this term.)

755 WC: In 1836, while residing at Paihia, Bay of Islands, I had a living specimen of the blue penguin, which I kept alive for some time in my garden. I made it a little skin jacket, with a brass ring in the back, and to this I frequently tied a long fishing-line and let the bird go out to sea, where it dived about and enjoyed itself. One day it bit the line in two, and so got off. It was a wonderful pet with the Maoris.

I should also observe, that although (as I have shown) the old Maoris had but little of blue colours of their own which they could use, yet on their early becoming acquainted with Europeans—whether resident among them as missionaries, or merely as visitors in the numerous ships which visited their shores,—no colour was better known to them in all its shades than this one of *blue*. In the ships and vessels—both of the Royal Navy and merchant line—there were the blue jackets, blue shirts, blue trousers, and blue caps! while with the Mission from the beginning, blue was the common and, indeed, almost the only colour used in the female and infant schools, and in the Mission houses and premises, by the numerous female domestics,—all alike were clad in blue, both on Sundays and on week-days. "Navy-blue" cotton prints (dark blue with minute white dots) for the children, and blue linen for the women, and blue woollen shirts, and blue-striped cotton shirts (and sometimes blue caps) for the men; and afterwards (say 40–45 years ago), when the American whalers largely and frequently visited New Zealand (Bay of Islands), they brought their wares for trade, and many useful lots were from time to time purchased from them for the general use of the Mission; and among those goods were the twilled cotton shirt with a much wider blue stripe, and the famed American blue twilled cotton; this last was much stouter and stronger than the thin "navy-blue" cotton print of English manufacture (being made among the cotton-growing plantations, and, I believe, originally, for the use of the coloured slaves there), and was also much warmer than both that and the English blue *linen*, and more easily worked than this latter, apart from its being very much cheaper; therefore, this new blue article also got largely into use. Its colour, however, was very different from that of the "Navy blue" print, of the dark blue linen, and of the blue woollen shirts, being [69] much lighter, and when it was washed it became lighter still in its colour! Hence soon arose a great number of names among the Maoris for all those different shades and hues of blue. Possibly there might have been a dozen or more of Maori names to indicate these several varieties of blue colour, newly introduced. And while it was a neat sight to see all the children, and all the adult women, sitting together at school, etc., clad alike in decent garments of English blue, which stood washing well and kept its colour, it was strangely different afterwards to note the contrasts in the several colours and hues of blue; for the American twilled blue cotton after a few washings became of a dull greyish-blue colour, and was then known among the Maoris as the "*tupapaku*" (corpse) from its faded dead appearance. And so, also, the Maoris in the villages, in their visiting the several stores to sell their produce, and seeking blue cloths and garments, could not be deceived as to their shades of colour, neither as to their durability; just as I have already shown (*supra*) in the matter of the red handkerchiefs. But all those several colours of blue, each bearing a distinct name among them, were shut up by the European under the one horrid term of *puuri*—blue! which, like several other words, mispronunciations of common English terms, inevitably became fixed, and drove the pure Maori equivalents—figurative and comparative—out of the philological field! It is well known to the oldest residents, that had it not been for the many books published in generally pure Maori by the Mission Press, and extensively circulated among the Maoris at an early period,—and the determination of the missionaries generally (at least of all those who knew Maori well), never to use or to encourage the use of such mis-shapen English,—the language would have completely deteriorated, and that very rapidly,

becoming a wretched unmeaning and mixed *patois*. Above I have merely remarked on the corruption of *one* word for colour—blue; but I have also (especially at the north) heard too often such words as *paraki*—black, *rari*—red, *karini*—green, *waiti*—white, etc., used among the Maoris themselves, instead of their own far better and more intelligible words for those well-known and common colours!

Another little early incident,—or series of them,—which frequently occurred before New Zealand became a colony, and which also serves further to illustrate what I have already related, as to their correct knowledge of blue and other gaudy colours, is the following:—Large coloured prints (too often mere daubs) of Scriptural and other subjects, were from time to time kindly sent out from England for the Mission Infant Schools; in the close examination of those coloured prints the Maori adults were as much interested as the children, or more so. And here, while they were often “at sea” as to many of the *forms* drawn in those pictures (the same [70] being wholly new), they were never wrong as to the *colours* of the robes, etc., in which blues, greens, yellows, and reds, often predominated; these they always settled to a nicety of description of their peculiar hues, and mostly by exact comparison, although to do so, occasionally took them some little time.

It was mainly in this figurative manner, and by way of semblance and likeness, that the Maoris of my early days in New Zealand (following out the long-established habits and customs of their forefathers) could receive and communicate knowledge among themselves; and happy was that missionary or teacher, who could empty himself, as it were, of his foreign ideas and ways, and thus go with them after their manner in seeking to impart truth: all such always found willing hearers. Ideas must be given through something; and the old Maoris could only receive teaching in and through modes of thought that were natural to them. For it is not the mere use of terms, but the sense in which they are used and received that must be considered. It is a fallacy, though both a natural and a common one (and one into which Mr. Stack in his paper has fallen) to confuse the image with the thing signified, like mistaking the colour of a substance for its true nature; but the old Maoris always steered clear of this.

But, after all,—though they so well and so clearly distinguished the many natural hues of red and of orange, of blue and of green, and of all gaudy colours,—perhaps their really chief *forte*, their strict national taste, in this line was shown, in the using and displaying to advantage the more striking contrast colours,—the contraries of white and of black. This was everywhere among them singularly exhibited, particularly in their clothing and in their dress ornaments. In this particular I never heard or read of any uncultured nation that ever approached them. Hence, when first visited, their best dogsing garments, strongly lined with woven cloth of flax, were composed of small white and black squares of dogsing with the hair on, laboriously and firmly sewn together,<sup>756</sup> much like the regular pattern of one of our chess-boards, only on a larger scale. And so, following out the same severely chaste taste, they often trimmed and adorned their best bleached white flax dress-mats, covering them all over with black hanging strings and

tassels set on at regular distances, and with a deep border of thick black fringe,—each separate cord or strand finely twisted by the hand. And just so it was in that other elegant dress-mat of theirs, the *korirangi* (large variegated shoulder-mantle, or tippet), in which the numerous larger hanging tassels with which the garment was closely [71] covered were all severally and regularly annulated, and made of alternate black and white (or black and yellow) chequer-work. Each of those dressmats, made after the fashion above described, took a long time to manufacture.

The same taste was also observable in their smaller personal ornaments;—in the pure white natural plumes of the white heron, and in the long white semi-transparent muslin-like epidermis of the mountain *tikumu* plant, and in the artificially-scraped and bleached white inner rind of the paper mulberry, for their black hair; in the snowy-white tufts of the down of the albatross and of the gannet for their ears, to set off the more strikingly the black lines of tattooing in their cheeks. And so with their other highly prized head ornaments, namely, the long black tail-feathers of the *huia* bird tipped with white; and the skin of the dark-plumaged *tui* (or parson-bird), with its strikingly-contrasted hanging white neck-feathers suspended in their ears; and also the shark’s white tooth (*mako*), for which, as a contrast, they early sought a yard of black silk shoe-ribbon: this last addition of a black ribbon, was, of course, a more modern one; but it was entirely in keeping with their national taste before it became debased and vitiated;—and in no case did I ever once detect a Maori wearing a red or gaudy-coloured ribbon to suspend his white ear-pendant of shark’s tooth.

Before, however, I quit this part of my subject (having brought prominently forward their dresses made out of their white and black dogskins), I would also briefly remark, that although I have seen very many of their old and ancient carved and ornamented staffs of rank, they were all hung and decorated with *white* hair only, obtained from the flowing tails of their *white* dogs; and I never saw, or heard, of such a staff being so ornamented with the hair of the tails of their *black* dogs. And this could only have arisen as a matter of similar general taste; the *white* hair, when new, being a much greater contrast to the carved dark and stained wood of the staff, than the black hair could be.

I have shown how greatly the old Maoris loved a pure white colour, and to what great pains, and even dangers, they went in order to secure ornaments, etc., possessing it in its purity. Some of our early settlers will also recollect how very much the Maoris of 25–30 years back (before they generally adopted European garments) preferred pure white calico sheets as open flowing garments for summer wear, for adults as well as for children. And not a few of our colonists (possibly some of my audience here this evening), who have travelled with Maoris, or who may have fallen-in with them in travelling, will have noticed how very quickly the [72] Maori has descried something at a great distance,—something white, or whitish, or, at all events, of a lighter colour than its environment; whether a distant sail at sea,—or a slip of earth or spot in a far-off cliff,—or a patch of snow on the mountain’s crest,—or a white-breasted pigeon high up in a tree,—or a gull flying over the sea,—or a settler’s house, or even a sheep in the distance;—how readily his eye had caught the object, and that entirely owing to its light or white colour. Now this is quite in keeping with our latest scientific investigation concerning what is known as “colour-blindness” and serves to show, to establish, a *priori*, how very free the Maoris must have been

<sup>756</sup> WC: And here it should be remembered, that while the flax-mats were manufactured only by women, the dogsing-mats were wholly made-up by men.

from all such infirmity. Indeed, for my part, and separate from my experience and experiments among them, I cannot perceive how the old Maoris were to live if such a failing ever existed, seeing that so very much in their daily life depended on their faculty of clear, correct and distant sight. Neither can I bring myself to believe that any such imperfection ever pertained to man in a state of nature.

I find that Mr. Brudenell Carter, F.R.C.S., has lately been giving a series of Cantor lectures at the Society of Arts on colour-blindness; and, among other things, he clearly showed and explained how "that the appearance of the world to the colour-blind must be less bright, less luminous, than to the colour-sighted; and that the appearance of whiteness, as familiar to the latter, must be unknown to the former. Whiteness is the result of the blending of the three primary colours of the spectrum in correct proportions, and the colour-blind, who perceive only two of these primaries, and can consequently only blend two, must see white surfaces as if their colour were compounded of red and violet, of green and violet, or of red and green, according to the primary which was wanting from the perception of the individual."

But I must close.

Wishing to do justice to my subject, my paper is more diffuse and anecdotal, and at the same time longer, than I had originally intended. I fear, moreover, that, in a few instances, I may at first sight seem to be a little tautological. But when I considered, on the one hand, what Mr. Stack had painfully endeavoured to establish (as against the old Maoris' superior natural faculties, and especially their knowledge of colours),—and, on the other hand, my own long and varied experience to the direct contrary, it seemed to me that I had no alternative left, if I wished the truth to be known concerning them, but to state what I knew, and to supplement the same with a few facts in support thereof; which, if I did not thus make known, would in all probability die with me. [73]

I will conclude this paper with an excellent observation by the celebrated Professor Owen:—"Past experience of the chance aims of human fancy, unchecked and unguided by observed facts, shows how widely they have ever glanced away from the gold centre of truth."<sup>757</sup>

#### APPENDIX.

#### *A Paradigm of the word Whero, one of the (several) Maori terms for the red colour.*

"It is said, that the New Zealander's perception of colours was defective and weak; this, however, is a mistake. Their colours were mainly divided into three distinctive classes,—white, black, and red;—but they were never at a loss clearly to express all colours. They used them, much as an English mariner uses the four names of the principal winds and points of the compass, repeated and involved to make 32, only much more expressively; as they also used with them several adjectives, increasing or lessening the meaning; also the words themselves reduplicated as diminutives. Besides which, if a New Zealander wished to convey to another a very exact idea of any colour intended, he would mention that of some natural object which was of the same shade of

colour," etc., etc. (W.C. "Essay on the Maori Races," § 33, Vol. I., *Trans. N.Z. Inst.*)

Whero = red.<sup>758</sup>

#### I. Ascending: intensifying.

(Indicating, pure, clear, strong, brilliant, and lasting red colours.)  
Kowhero.

Tino kowhero.

Tino whero.

Whero nui.

Whero nui rawa.

Whero nui whakaharahara.

Tino whero nui rawa.

Tona whero i whero ai.

Tino whero whakawhero.

Katahi te tino whero.

Katahi te mea i tino pai tona whero. [74]

Koia rawa

Koia kau

Eharay

Tena

te nui o te whero!

te pai o te whero!

te kaha o te whero!

te ataabua o te whero!

te ahua pai o tona whero!

te tuahua pai o tona whero!

Tino whero rawa, anana!

Whero kita.

Whero kitakita.

Whero whakamoe kanohi.

Whero whakakorekoreko kanohi.

#### II. Descending: lessening.

(1. Lighter, but fair reds.)

Kowherowhero.

Wherowhero.

Kowhewhero.

Whewhero.

Towhero.

Tu-a-whero.

Tu-a-kowhero.

Tu-a-kowherowhero.

Tu-a-wherowhero.

Tu-a-kowhewhero.

Tu-a-whehero.

Wheronga-parakaraka.

Whero-kowhai.

(2. Fainter, but having more or less of red and pink hues.)

Maa-whero.

Maa-whero maa-whero.

Maa-herowhero.

Maa-tu-a-whero.

Maa-tu-a-herowhero.

E iti ana tona whero.

E iti ana tona wherowhero.

E itiiti ana tona whero.

Maa-herowhero tu-a-whakamaa ake.

Maa-herowhero ake.

Maa-herowhero iho.

Maa-tu-a-herowhero iho.

Maa-tu-a-whehero iho.

Ahua whero noa iho. [75]

Ahua whakawhero noa.

Ahua wherowhero noa iho.

Tu-ahua wherowhero noa iho haere ake ki te maa.

Tona whero, he wherowhero noa iho otira ahua whakawhero ake.

Ata wherowhero.

757 WC: Palaeontology, p. 443; Second Edition.

758 WC: There are also several other proper names of red,—as, kura, kurakura, ngangana, pakurakura, ura, etc.

Tu-a-kowhewhero.  
Tona ata e ahua wherowhero ana.

(3. Dark-red, red-brown, etc.)

Whero-pakaka.  
Whero-tu-a-pouri.  
Whero ahua pouri.  
Whero ahua whakapouri.  
Whero-parauri.  
Kihai  
Kahore

maarama tona whero.

Whero-rere-kee.  
Whero-tangi-kee.  
Whero-ahua-kee.  
Whero-ahua-tangi-kee.  
Whero-tu-ahua-kee.  
Whero-tu-ahua-tangi-kee.<sup>759</sup>  
Whero-pouri.  
Whero-pango.

(4. Faded red colour.)

Whero haamaa.  
Wherowhero haamaa.  
Whero tupapaku.  
Wherowhero tupapaku.  
Whero kua kore.

(5. Ugly, disagreeable, bad, red colours.)

Whero kino.  
Whero kinokino.  
Wherowhero kino.  
Wherowhero kinokino.  
He whero ano ra, otira he whero tu-ahua kino.  
Whero marutuna.  
etc., etc. [76]

To most, if not all, of those terms and idiomatic phrases (of which many others could be readily furnished) for the various natural colours of red, would be added the thing possessing that particular hue of red in the estimation of the speaker; who would also aim to be correct, otherwise his comparison, or simile, would be sure to be ventilated and roughly handled. Such was generally given with the comparative particle *me* (like: just as) preceding the noun: as,—*tino whero, me te pua raataa* = of a deep red, like the flowers of the *raataa* tree: *whero, me he koura* = red, just as a crawfish: *whero, me he toto pango* = red, like black (*or* old) blood. There were also several other modes of drawing the comparison.

Of those examples I have given above, I have repeatedly heard a very large number of them used.

### 1881 Description of two little-known Species of New Zealand Shells.

*Transactions of the New Zealand Institute* 14: 168-169.

[Read before the Hawke's Bay Philosophical Institute,  
14th November, 1881.]

ALTHOUGH just forty years have passed since I first detected and made known these two shells, one marine and one

759 WC: These six terms are really beautiful ones, possessing great depth of meaning: A good and interesting philological chapter might be written in their exposition.

fresh-water, which I now bring before you, I have good reasons for believing they are still but little known. Their scientific description, etc., was early published in the "Tasmanian Journal of Natural Science,"<sup>760</sup> but I do not find them noticed in any of the modern conchological works in our library, under my own or any other specific names; neither are they included in the exhaustive "List of New Zealand Mollusca," recently laboriously compiled from almost all conchological authorities by Professor Hutton, and published last year by the New Zealand Government. I therefore conclude that they are still but little known. This, however, may be easily accounted for, if, as I suppose, the single localities in which I separately found them are their only known habitats; as such are quite out of the way of both the scientific and general traveller; and although I sought them diligently in my early and general collecting of the shells of this country, I never met with these species anywhere else. At the time, however, of their discovery, I distributed several specimens to various parts of the world.

You will not fail to note, in examining the specimens before you, how exceedingly well they have kept both their original colours and freshness of epidermis, more resembling specimens newly obtained, than those of forty years slumbering in a cabinet. In again giving their scientific description, I shall, on account of conformity, confine myself to the terms I used in the original drawing up, although at that very early period without scientific books.

#### Genus Patella.

PATELLA SOLANDRI.<sup>761</sup> Shell oval, anteriorly truncated, much depressed, faintly striated longitudinally, diaphanous, fragile, covered with a thin epidermis; *inside*, smooth, glossy; *vertex*, very much anteriorly inclined, sub-acute, produced, slightly recurved; *margin*, entire, obsoletely crenulated within; *colour*, bluish green, concentrically streaked with brown, beautifully blotched, or tortuously undulated, with same colour towards margin; 5–7 lines long, 4–5 lines broad.

*Hab.* Adhering to the underside of large smooth stones; Tokomaru (Tegadoo) Bay, East Coast, North Island of New Zealand. [169]

#### Genus Unio.

UNIO WAIKARENSE.<sup>762</sup> Shell, oblong, or oblong-ovate, concentrically and irregularly sulcated, sub-diaphanous, inflated; anterior side produced, obtuse, slightly compressed; *posterior slope*, keeled, sharp: *base*, slightly depressed; *umbones*, decorticated, flattish, much worn; *primary tooth*, large crested; *epidermis*, strong, overlapping at margin, wrinkled on anterior slope; *colour*, brownish-yellow on posterior side, shading into dusky-green on the anterior, with alternate light-coloured lateral stripes; 3½ inches broad, 2¼ inches long.

*Hab.* Waikare Lake, mountains, interior of the North Island of New Zealand.

The largest and handsomest of all the known New Zealand species of the genus.

760 WC: Discovered in December, 1841, and published in "Tasmanian Journal of Natural Science," vol. ii., pp. 226, 250.

761 *Atalacmea fragilis* Sowerby.

762 *Echyridella menziesii* Gray.

**1881 On some new and undescribed  
Species of New Zealand Insects, of the  
Orders Orthoptera and Coleoptera.**

*Transactions of the New Zealand Institute* 14: 277-282.  
*[Read before the Hawke's Bay, Philosophical Institute,  
8th November, 1880.]*

**ORTHOPTERA**

**Fam. MANTIDÆ Genus Mantis**

***Mantis novæ-zealandiae*<sup>763</sup> n. sp**

Pronotum five lines long, anterior end widest, ridged down the middle minutely tuberculated all over in scattered dots, punctulate, punctures translucent when viewed between eye and light, side-margins rough finely sub-serrulate, edge straight sloping gradually to mesonotum. *Anterior pair of legs*: trochanter very slightly serrulate at margins; femur two rows of spines of irregular lengths, inner row small and closely set, outer four only large and distant, a large purple oval or kidney-shaped spot central within; tibia two rows of spines, regular, ending in one very long curved one at base; tarsus long; *costæ of the anterior wings* (elytra), one to each, run longitudinally parallel with and near the outer margin, with transverse flexuose nerves branching inwardly and diagonally, from it, wholly filled up between them with fine anastomosing veinlets; *elytra* semi-transparent; *posterior wings* much smaller and very membranous; wings extending far beyond base of abdomen; abdomen thick smooth. *Antennæ* short, 3½ lines long; *eyes* large, two small portuberances (?) stemmata) between horns and just behind them: total length from head to posterior edge of elytra 1½ inches: length of *nymphæ* 1½ inches. Colour (of both states nearly alike) mostly light emerald green; underneath, about mouth and thorax, and inside of fore-legs pale lemon; outside of legs and head (above) dark orange; a dark purple reniform spot on inside of each fore femur.

*Hab.*—Scinde Island, Napier, on trees (*nymphæ state only*), 1878–1879, Mr. J.A. Rearden; *imago state* (one specimen), 1880, Mr. J.D. Ormond.

This species has pretty close affinity with the European species *M. religiosa*, but it is very much smaller, with shorter horns, and less spiny and narrower fore-legs, etc. [278] During the summer of 1878–1879 I had several living specimens of this insect in its *nymphæ* state; some of them I sent to the Colonial Museum in spirit. I kept them alive for some time, although I did not succeed in finding out their natural food; one of them, however, shed its skin. I had long been on the look-out for a New Zealand species of *Mantis*, as we had known from Dieffenbach's work on New Zealand (vol. ii., p. 280), that some eggs, or egg cases, of a species of *Mantis* had been taken to England by Dr. Sinclair nearly forty years ago, and I was consequently much gratified on receiving the perfect insect.

**Fam. PHASMIDÆ Genus Bacillus.**

***Bacillus sylvaticus*,<sup>764</sup> n. sp.**

General colour dirty yellowish-grey, abdomen darker; *pronotum*, *mesonotum*, and *metanotum* slightly spiny with a few small low spines; three longitudinal rows of large distant spines on *pronotum*, 3–4 in each row; *prosternum*, *mesosternum*, and *metasternum* very spiny with long sharp spines; all spines blackish pointed; a close row of fine sharp spines runs along side ridges of *mesothorax* and *metathorax*; abdomen below with two rows of spines from anterior end to end of the sixth segment, which are tolerably large at the anterior end; above smooth or very slightly and sparingly muricated; fourth, fifth, and sixth segments dilated on sides at posterior ends, the sixth the most so; *anal appendages* produced, broad; *anus* very large; anterior pair of *coxa* slightly tubercled, others smooth, or roughish, wrinkled; *anterior pair of femora* angular, regularly crenulated on upper edge, and distantly muricated on both upper and lower edges; *middle and posterior pair of femora* with 2–3 small scattered spines; *posterior and middle tibiae and tarsi* slightly crested at bases, those of *tibiae* twin and very small; all *tarsi* slightly pubescent; *vertex* slightly tubercled, smooth between the eyes and under throat; *antennæ* slightly tubercled black-jointed, muticous, 1¼ inch long; length of body 5¼ inches.

*Hab.*—On trees, forests, Hampden, Hawke's Bay, 1879.

This species has affinity with *B. horridus*, nevertheless it differs considerably.

A peculiarity of one of my specimens is worth noticing, viz., that it has evidently lost one of its middle legs; and now a much smaller one, perfect, though not one-third of the size of the other, was being developed.

**Fam. LOCUSTIDÆ. Genus Hemideina**

***Hemideina gigantea*,<sup>765</sup> n. sp.**

Colour; head, thorax, femora, two fore pairs of *tibiae* and *tarsi*, red brown; *pronotum* a darker and very rich red-brown, slightly punctured with whitish spots; abdomen (dorsal) smoky light-ochre with transverse symmetrical dark-brown (raw umber) bands at edges of all the segments, [279] widest in the middle and decurrent centrally beginning at the mesonotum; sides of abdomen deep black-brown; ventral segments throughout blotched with black-brown in three irregular and wide; longitudinal lines; posterior *tibiae*, *tarsi*, and spines, with the ovipositor, piceous; *tibiae* quadrangular, *anterior pair* with ten spines in two inner rows; *middle pair*, fourteen spines in three rows; and *posterior pair* with seventeen spines in four rows, (three of them alternately bearing five spines each), the outer row being very long and acute, increasing in length downwards, the lowest spine, at the base of *tibia* 4 lines long; *femora*, *anterior*, and *middle pairs*, smooth, and spineless; *posterior pair* each having two longitudinal rows of spines, eight in a row on the inner side, regularly marked on the outside with transverse wavy light lines; *coxae* each armed with a single spine, those of *anterior pair* long and sharp, of prominent short and very obtuse; four joints of *tarsi* cushioned, each with a prominent broad transverse pad, besides pulvilli; last

<sup>764</sup> *Argosarchus horridus* White.

<sup>765</sup> *Deinacrida heteracantha* White.

joint of tarsi the longest; terminal spines, or hooks, of tarsi large, long, and falcate; ovipositor curved upwards, blades slightly concave, thin, and elliptical at apex; four long stout acute spines above, two on each side of anus; posterior femur  $1\frac{1}{2}$  inch long, tibia 2 inches long, tarsus 1 inch long; maxillary palpi stout, long, and largely clavate; labrum very broad and obtuse; eyes broadly elliptic and very prominent; antennæ light reddish-brown, annulate,  $7\frac{1}{2}$  inches long, distant at base; rings of horns smaller and finer than in the much smaller species (*infra*) *H. speluncæ*: size, body without appendages 4 inches long, and very bulky.

*Hab.*—In a small low wood behind Paihia, Bay of Islands; 1839.

This species is bigger every way than *H. hetaracatha*, with which species, however, it has, close affinity. It is also much more spiny, and differs greatly in colour, etc. It is a very fine and handsome insect.

It has a little semi-public history, which may be here very briefly given. It has been seen and admired by Dr. Dieffenbach, Dr. Sir Joseph Hooker (and the other officers of that Antarctic expedition), Dr. Sinclair, Lady Franklin, the several early French and American naturalists who had visited New Zealand, etc. etc.

It was long supposed (from the publication of Dr. Dieffenbach's work on New Zealand in 1848) to be identical with *Deinacrida heteracantha* of that work (vol. ii. p. 180), and, if so, should have been the type (being the old original specimen); but a close examination of late years served to show their respective and great differences. This specimen remained packed up in the box in which it was brought away from the Bay of Islands, from 1843 to 1864! It was, however, exhibited at the New Zealand Exhibition<sup>766</sup> at Dunedin in 1865, as *Deinacrida gigantea*, Col.; and although it has been [280] now forty-two years in spirits, its colours are unaltered. It is still in its original clear glass bottle with the liquid clear and pure: but the ground-glass stopper having become firmly fixed, and not choosing to run the risk of injuring the specimen (which, as far as I know, is unique), I have given some of its measurements as approximate only,—but they were carefully taken and are very nearly quite correct, at all events within a line or two.

#### *Hemideina speluncæ*,<sup>767</sup> n. sp.

*Colour:* body beneath light ochreous; pronotum, both anterior and posterior edges broadly banded with black, mesonotum and metanotum also having a black band close to posterior margin, but all the thoracic and abdominal segments have a narrow white line on all their dorsal posterior and side edges; abdomen above brownish, dirty raw umber at the base; posterior femora (upper parts only) light reddish-brown, transversely and closely banded with finely waved and regular lines of a darker brown, in three longitudinal and separate rows, the markings all different in each row; middle and anterior femora (upper part only) ochreous; tibæ and lower parts of femora banded with black and white rings (resembling porcupine quills in miniature); tarsi light straw colour, translucent: *posterior pair of legs*; femur  $1\frac{1}{4}$  inch long, with one row of seven very small distant spines on the inner edge; tibia  $1\frac{1}{2}$  inch long, slightly hairy, with two rows of fine close spines, 35–40 in a row, on two inner edges, sulcated between the rows,

at base of tibia two long and villous white spines; tarsus 4-jointed, 8 lines long, smooth, translucent, finely and thickly pubescent, with a single small spine at the base of each joint, joint nearest to the tibia the longest (as long as the other three taken together: *middle pair of legs*; femur 9 lines long, naked; tibia 10 lines long, with four rows of small spines, five in each row; tarsus 7 lines long, spineless: *anterior pair*; femur  $10\frac{1}{2}$  lines long, with a row of six small spines; tibia 11 lines long, with a row of four small spines; tarsus 8 lines long, spineless, slightly villous and translucent; two long spine-shaped *processes*, each 4 lines long, at end of abdomen near anus, one on each side, whitish, finely ciliated with long flexuose patent ciliæ, 1–2 lines long; *head* rather small, narrower than pronotum, and scarcely appearing before it; maxillary palpi long and slender, slightly clavate; *eyes* rather large, semi-lunar, at base of antennæ and nearly behind them, gibbous edge towards thorax; *antennæ* thick at base and close together, 8 inches long, articulated, light reddish-brown but darker at articulations, very setaceous, each bearing a row of short obtuse spines on the outer edge in the middle for nearly one-third of its length, spines irregular in size and position, some being near, one on each articulation, some more distant, with 2–3 vacant articulations between, spines always at anterior end of joint, rings of its horns coarser than in the large species (*supra*) *H. gigantea*; *body* without appendages,  $1\frac{1}{2}$  inch long. [281]

*Hab.*—In dark underground caves near the head of the Manawatu river, in the “Forty mile bush,” 1879.

This peculiar and very interesting animal, (of which I regret to say I have but one whole specimen), inhabits in great numbers those small caves which are difficult of access; there they hop and spring about like shrimps, and having such excessively long and fine horns and legs, it is a very difficult matter to secure a perfect specimen; of course the necessity of having a candle burning when in those dark recesses, greatly increases the difficulty. I am indebted to Mr. J. W. Thomson, of Norsewood, for this specimen here described, who captured the insect there, together with some others, which, however, were unfortunately much crushed and broken. The brightness of its colours when fresh, particularly of its black-and-white ringed legs, their excessive tenuity, and the extreme length of its fine setaceous horns, all tend to give this creature an elegant and graceful appearance; in this respect widely differing from the other known species of this genus.

#### COLEOPTERA.

##### Fam. CURCULIONIDÆ. Genus *Scolopterus*.

###### *Scolopterus submetallicus*,<sup>768</sup> n. sp.

General colour black-green, very glossy, *femora* purple-black, legs piceous; *elytra* punctured coarsely in lines on back, faintly on sides; *head* smooth; shoulder-spines straight, acute; *posterior femora* large, armed with a large acute tooth near base; *pulvilli* bordered with white. Length  $4\frac{1}{4}$  lines.

*Hab.*—Forests near head of Manawatu river, 1880.

766 WC: Vide Jurors' Reports, p. 254

767 *Pachyrhamma edwardsii* Scudder.

768 *Scolopterus aequus* Broun.

This specimen flew down from a high tree, and alighted on the sleeve of my coat. As a species it ranks near to *S. tetracanthus*.

#### Genus Rhyncodes.

*Rhyncodes weberi*,<sup>769</sup> n. sp.

*Insect* villous; general colour reddish-brown intermixed with grey, and mottled with small greyish-white blotches on elytra; *pronotum* brown, finely punctulate; *elytra*, five black shining longitudinal lines slightly and closely tuberculated in small raised dots, parallel with five black smooth lines, outer edge stout, black, glossy, strongly and regularly marked with small transverse riblets running inwards at right-angles; *abdomen* beneath black glossy, with a few short scattered hairs, and three broad longitudinal rows of mottled hairs; *femora*, and sides (shoulders) of pronotum, black, glossy, and slightly punctulate; a small tuft of reddish hairs at bases of femora; *coxae* densely villous; *tibiae* and *tarsi* very hairy; *pulvilli* very large, broadly orbicular-obcordate; *antennae* stout, serrated, hairy throughout and coarsely ciliated, nearly as long as the rostrum; *head* and *rostrum* very hairy, with red-brown hairs. Length, including rostrum, 15 lines. [282]

*Hab.*—Hawke's Bay; C.H. Weber, Esq., 1878.

A species near to *R. ursus*, but much larger.

*Rhyncodes rubipunctatus*,<sup>770</sup> n. sp.

*Insect* wholly covered with very short whitish-grey down, finely and thickly speckled with light-red, which (below especially) assumes a flattish semi-scaly appearance, each minute speck of reddish down or hair showing a regular circumscribed shape; *pronotum* dotted profusely and finely with black raised irregular dots, and bearing two semi-lunate and two smaller brown spots; *elytra* extending sharply over abdomen, with 12–14 longitudinal sub-striated rows of black raised shining dots, mottled with 2–8 small brownish markings in a line with those on pronotum; *abdomen* below with three fine transverse black lines near anus; *head* between eyes and base of rostrum coarsely dotted with raised brown dots; *eyes* large; *rostrum* jet-black, smooth; *antennae* as long as rostrum and slightly hairy. Length, including rostrum, 9 lines.

*Hab.*—Hawke's Bay, Patangata; captured by Mr. G.W. Tiffen, 1880.

Another specimen, taken in the same neighbourhood by Mr. Winkelmann, bit its captor's hand pretty sharply through his handkerchief, causing it to bleed.

#### 1881 A description of a few new Plants from our New Zealand Forests.

*Transactions of the New Zealand Institute* 14: 329-341.

[Read before the Hawke's Bay Philosophical Institute,  
14th November, 1881.]

#### Class I. DICOTYLEDONS.

##### ORDER 1. RANUNCULACEÆ.

*Genus 1. CLEMATIS, Linn.*

*Clematis quadribracteolata*,<sup>771</sup> n.sp.

*Plant* dioecious, small, very slender, trailing, extending only a few feet each way; *branches* sulcated, glabrous or with the young ones slightly and finely puberulent; *leaves* few, very minute, trifoliolate, on long petiolules 2–3 lines long, mostly ovate-acuminate and broadly lanceolate, or spatulate,  $\frac{1}{2}$ – $1\frac{1}{2}$  lines long, and sometimes linear-lanceolate 3–5 lines long acute with a knobbed point, no lateral veins, only a mid-rib, with here and there a [330] trifid leaflet, glabrous on both sides, sub-coriaceous, entire, dark-green margined with a deep black line; *petioles* glabrous, opposite, 1–2 inches long; *flowers* opposite, axillary solitary, sometimes (though rarely) two from one axil, and very rarely three pedicelled on one peduncle; *peduncle*  $\frac{1}{2}$ – $1\frac{1}{2}$  inches long, shorter than petioles, tri- and quadri-bracteolate, slightly pubescent below, densely so from uppermost pair of bracteoles; *bracteoles* free, connate, cup-shaped, pubescent, very obtuse and rotund at apices, obsoletely veined, each pair increasing in size upwards, the largest pair nearest the flower; *sepals* four, dull light-purple, thin, slightly spreading and revolute, 3 rarely 4 lines long, ovate, oblong-lanceolate, obtuse, glabrous within, silky pubescent without, ciliated, finely and obscurely veined longitudinally with 4–5 veins; *male flowers* on peduncles usually shorter than those bearing the hermaphrodite ones, and with only three pairs of bracteoles; *anthers* 25–28, elliptic, obtuse, light yellow; *filaments* broadly linear-lanceolate, flat, dark purple, outer shorter than sepals, inner sub-sessile; *hermaphrodite flowers* with only four stamens; *pistils* white, silky, very glossy at first, a little longer than sepals, glabrous, curved and clubbed at points; *achenes* 22–24, capitate, sessile, ovate, subsetose with short white hairs; *tails* very hairy, 8–9 lines long.

*Hab.*—In low-lying marshy spots, Hawke's Bay, S.W. and S. side.

This little plant has long been imperfectly known, no doubt partly owing to its small size (when compared with its indigenous congeners), to its want of striking colours, to its lowly growth, and to its peculiar habitat—hidden among the rank vegetation of marshes and on the edges of watery places, and not unfrequently springing from within a large tuft of *Carex virgata*. I first met with it so long back as 1847, on the banks of the Lake Rotoatara, near Te Aute, but my specimens then were incomplete. Subsequently (1872) it was detected by Mr. Sturm in the low ground between the Ngaruroro and Tukituki rivers, near Clive. Mr. Sturm also removed plants to his nurseries in hopes of cultivating them, but failed. Last year (1880) it was also found by Mr. Hamilton, in similar localities, near Petane; from him I have received ample specimens, in various states, which have enabled me to draw up this description. Though small, it is a

769 Not found.

770 Not found.

771 *Stet.*

neat-looking, almost a graceful plant, and differs widely from all our indigenous species of *Clematis*, as well as from the described Australian, Tasmanian, and South Pacific species. This species has but very slight affinity with *C. foetida*, Raoul, under which species Dr. Sir Jos. Hooker had provisionally placed it as a variety.<sup>772</sup>

***Clematis parkinsoniana*,<sup>773</sup> W.C.**

HERMAPHRODITE, OR FEMALE, PLANT: *Leaves* trifoliolate, smaller and much more regular in size and outline than in the male plant, each leaflet usually ovate, 4–10 lines long, and deeply incised with 2–6 incisions, [331] mucronate, not unfrequently a leaflet is again subdivided into three leaflets, when each lesser leaflet is also petiolulate, and then is pinnate below; *veins* as in male plant; *hairs* the same, but the whole plant is still more thickly covered with them, golden and glossy; *common petiole* 1–1½ inches long, slender, filiform; *petiolules* 4–12 lines long *flowers* numerous, diameter 9–12 lines, disposed in opposite axillary free panicles, 2½–3 inches long, bibracteolate at or near base; *sepals* six, as in male flower, longer than pistils; *anthers* (infertile) 8–9, narrow, linear; *filaments* somewhat lanceolate, broad, flat, one-nerved, shorter than pistils, about half the length of the sepals; *pistils*, at first silky, shorter than the sepals; *pedicels* opposite, 5–7 lines long, single-flowered, bracteolate at base, lowermost ones also bracteolate about the middle and 8–10 lines long; *bracts* and *bracteoles* connate, etc., as in male plant: *achenes*, 22–26, capitate, sessile, broadly oblong-lanceolate, sub-hispid with short patent hairs; *tails* very hairy, 12–14 lines long, flexuose, with curved and thickened tips.

*Hab.*—In forests, banks of streamlets, head of River Manawatu, 1881, (same localities as male plant), flowering in October, fruiting in December.

This, the female plant, bears a generally neater and more graceful appearance than the male plant, owing to its smaller, more regular, and more silky foliage; like the male plant it forms thick, dense, impassable bushes, often enveloping other plants and shrubs. I noticed, also (this year), that the flowers of the male plant were not so fugacious as I had formerly found and described them; which, at that time (in 1879), was no doubt owing to my first finding them later in the season (November) and just after very heavy rains.

For a full description of the male plant, see "Trans. N.Z. Inst.", vol. xii., p. 359.

**ORDER 47.<sup>774</sup> APOCYNEÆ.**

**Genus 1. PARSONSIA, R. Brown.**

***Parsonsia macrocarpa*,<sup>775</sup> n.sp.**

*Plant*, a shrub of very diffuse rambling growth, climbing over shrubs and bushes to the height of 12–14 feet; *stem* stout, ¾–1 inch diameter; *branches* pubescent with scattered white adpressed hairs; *young branches* densely tomentose;

772 WC: "Flora Novæ-Zelandiæ," vol. i., p. 7, and "Handbook New Zealand Flora," p. 2.

773 Possibly *Clematis foetida* Raoul.

774 WC: The numbers here attached to both Orders and Genera are those of the "Handbook of the New Zealand Flora."

775 *Parsonsia heterophylla* A.Cunn.

*leaves* papyraceous, opposite, elliptic-lanceolate (sometimes obovate), 2½ inches long (with a few smaller, 1–1½ inches), mucronate, pubescent, margins entire, slightly revolute, bright green above, pale yellowish-green below; midrib stout, tomentose on both sides, lateral veins opposite, nearly straight, parallel and regular, rather obscure; *petioles* slender, 5–6 lines long, slightly pubescent. [332] *Flowers*: numerous, 12–20, terminal in long loose panicles and cymose-panicles, on long leafy axillary and opposite branchlets much longer than the leaves, scentless; *calyx* large, coloured dark pink, (and with pedicels and peduncle) densely velvety tomentose with light brown hairs; *lobes* acuminate acute, teeth about ½ line long, spreading, ciliated; the lobes lengthen much after flowering on the fruit: *pedicels* 2 lines long, each with one small bracteole: *corolla* pure white, urceolate, inflated, 3½–5 lines long, finely pubescent on the outside with very short scattered squarrose hairs; *lobes* small, scarcely 1 line long, subacute, subrevolute; *throat* constricted with a slightly raised corona: *anthers* wholly included below constriction. *Follicles* (immature and green) sub-cylindrical, tapering gradually to apex, points very obtuse, 8 inches long, 2½ lines in diameter, 8 lines circumference, striated longitudinally, umber-brown when dry, minutely strigose-pubescent with small scattered white adpressed hairs.

The nodal stipules or appendages, on the young long flagelliform densely tomentose branches (*rami viminei*) present a very curious appearance; they are opposite, erect, large, 3 lines long, subulate or linear with small dilated subleafy apices; at first, however, each one projects squarely out, about a line, at a right angle from the stem, with the outer point or elbow slightly dropping downwards, after the manner of a bracket corbel or drip; the whole possessing a peculiar quadrate and regular appearance.

*Hab.*—"Seventy-mile Bush," Hawke's Bay; thickets near banks of streams, 1876–1881: flowering in April, also in November, and possibly throughout the summer.

I had long known this plant in its leafing state, and had suspected—from its general tomentose appearance, and the regularity of the outline of its large leaves—that it might prove to be distinct from the two established New Zealand species, *P. rosea* and *P. albiflora*. Last autumn I was so fortunate as to obtain good flowering and fruiting specimens, which proved my conjecture to be correct, as it very widely differs, specifically, from both of those species,—more so indeed, than they do from each other. It is, however, allied to *P. albiflora*; and probably to an Australian species. It is a fine healthy-looking large and thickly-leaved species, and is evidently a fast grower.

**Class II. MONOCOTYLEDONS.**

**ORDER 1. ORCHIDEÆ.**

**Genus 4. SARCOCHILUS, Brown.**

***Sarcochilus breviscapa*,<sup>776</sup> n. sp.**

*Plant* epiphytical; *roots* stout, clasping, issuing from bases of leaves and forming large irregular masses, from which 4–8 plants grow: *stems* 6–10 lines high, compressed, subcylindrical, very stout, glabrous, purple, [333] covered by the imbricated sheathing bases of the leaves: *leaves*, usually 4–5 to a plant at a time, thick, glabrous, oblong or

776 *Drymoanthus adversus* (Hook.f.) Dockrill.

oblong-lanceolate, acute and pointletted, with a distinct mucro (almost like a short awn, so that each leaf has a vertical double-pointed apex), diminishing but slightly towards base, 1, 1½–2 inches long, 5–6 lines broad at middle, and 2–3 lines broad at base, sessile, sheathing, jointed immediately above clasping sheath, somewhat keeled, distichous, spreading, sub-falcate, dark-green spotted with purple, mid-rib below purple, 8-nerved longitudinally, nerves parallel and sparingly transversely netted, but only visible when leaf is dried: *scape*, slender, axillary in lower leaves, 4–8 lines long, (and with rhachis) green, closely spotted and blotched with purple; two solitary sheathing *bracts*, one at base, and one much larger and acuminate on one side in the middle: *rhachis*, 6–12 lines long, thickened.

*Raceme* 5–8-flowered, flowers not crowded: *pedicels* 2 lines long, alternate and scattered, purple striped, each having a single broadly ovate acute bract, embracing at base.

*Perianth* conniving, not split quite to base, 3 lines diameter, light-green, striped and spotted with purple: *sepals* oblong-ovate, obtuse, with a purple stripe down the centre on outside; dorsal one largest: *petals* oblong-lanceolate, subacute, smaller than sepals, margined spotted and blotched with purple: *labellum* shorter than petals, greenish-white minutely spotted with purple without, green within, gibbous at apex, subcucullate with a minute notch on each side of lip; *lateral lobes* very slightly produced, conniving, with two thick transverse opposite ridges (*calli*) within. *Capsule* oblong-linear, pointletted, stout, turgid, 7–8 lines long, light-greenish, striped longitudinally with purple; densely woolly within: seeds minute, lanceolate, and with their wool light-brown.

*Hab.*—High up in forks of large pine trees (*Podocarpus dacrydioides* and *P. totara*), “Seventy Mile Bush” (1878–80), and at Glenross (1881, *D. P. Balfour*), Hawke’s Bay; flowering in September. A species allied to some of the smaller Australian species of this genus, and possessing close affinity with *S. adversus*, Hook. fil., but very distinct.

## ORDER 7. LILIACEÆ.

### Genus 5. ASTELIA, Banks and Solander.

#### *Astelia polyneuron*,<sup>777</sup> n. sp.

A middle-sized species, few-leaved and not bushy; epiphytical.

MALE PLANT: *Leaves* spreading drooping sub-coriaceous, 4.9–5 feet long, linear-lanceolate very acuminate acute, 1¼ inch wide at middle, largely sub-recurred, dark green, glabrous on upper surface, canescent-tomentose below with fine white closely adpressed hairs, possessing (under a lens) a minutely and regularly dotted appearance, 1½ inch wide at base and there densely clothed with long straight white hair, deeply furrowed on [334] each side of the mid-rib, mid-rib keeled, ciliated at edges and on mid-rib below with longish white hairs, 12-nerved longitudinally, nerves white clear and parallel: *scape*, sub-flexuous, pendulous, 16 inches long, obtusely trigonous, very stout, thickest and more angular at top, shaggy throughout with dense white floccose cottony wool, particularly at base, and bearing a branched loose *panicle* 9 inches long, composed, *below*, of 5 symmetrical alternate sub-panicles, the lowermost one

having 4 racemes, and each of the upper four 3 racemes, 6–2 inches long springing from one base or short peduncle, the middle raceme of each sub-panicle always the longest, and each of the five with a single leafy sessile *bract* at its base, the lowermost bract being 2 feet long and 8 lines wide at the base, rather suddenly widening at 3 inches from base to 1¼ inch, and 10-nerved; the next bract 14 inches long, and both lanceolate and very acuminate from the widest part, light-green and glabrous above; the remaining three bracts small; *above*, the panicle is composed of five single alternate bractless racemes; racemes, smaller bracts, peduncles, pedicels and bracteoles densely clothed with silky hairs: *flowers* numerous, free, scattered on long pedicels; pedicels 3 lines long and bracteolate; *bracteoles* linear, as long as pedicels, reddish: *perianth* glabrous, light-green with a dash of yellow, each segment bearing a reddish central stripe on the outside, stellate, ½ inch diameter; *segments* free to base, nearly equal, sub-recurred; *sepals* larger, ovate-lanceolate, sub-acuminate, with a slight protuberance a little way in from the tip; *petals* narrower obtuse: *filaments* long, slender, spreading: *anthers* oblong, obtuse, almost circular after bursting.

FEMALE PLANT smaller in all its parts than the male plant; *leaves* 2 feet 3 inches—2 feet 6 inches long, ¾ inch broad at the middle, and only 8–10-nerved: *scape* as in the male, but straight and shorter, 8–9 inches long: *bracts* as in the male, but smaller; the lowermost 14–17 inches long, and 6-nerved; the next one 3½ inches long, the other three small: *panicle* erect, 7 inches long, free; composed *below* of three alternate subpanicles, each containing three racemes of flowers springing from one base or peduncle; and *above*, of five single racemes, the upper two being without bracts: *flowers* as in male, but smaller, with shorter pedicels and bracteoles, which are white: *perianth* greenish-yellow, scented, densely clothed on the outside with silky hairs: *segments* spreading, not recurved, and broader than those of the male plant: *style* short, stout: *stigma* sessile, trifid, very obtuse, smooth: *ovary* globose, red, succulent (like a small red currant when fully ripe, and of the same colour), very slightly marked from top downwards with three angular furrows: *anthers* (infertile) very small, oblong, narrow, obtuse, just appearing from under the ovary, and closely embracing it. [335]

*Hab.*—In dense forests near the head of the river Manawatu, North Island; epiphytical on living trees, at no great height from the ground; 1880–1881; flowering in December.

This species of *Astelia* is very distinct from all our known New Zealand (and other described) species; still, in some respects, it has affinity with *Hamelia veratroides* of A. Richard, (a New Zealand species of this genus), judging from his copious description of the female plant of that species and his botanical drawing of the same,<sup>778</sup> which species Dr. Sir Joseph Hooker has placed with a doubt, under *Astelia cunninghamii*, in his “Handbook of the New Zealand Flora,” but I do not think it will be found to belong to it. Indeed I think that A. Richard’s plant,<sup>779</sup> (collected in New Zealand by D’Urville and Lesson) has not been subsequently detected in this country. A. Cunningham, in his “Precursor of the Botany of New Zealand,” placed it under *A. banksii*, as a synonym of that species; I doubt, however, if Cunningham ever gathered it.

778 WC: Atlas Botanique, “Voy. de L’Astrolabe,” t. 24.

779 WC: *Astelia richardi*, Endl., apud Kunth, Enum. Plant., vol. iii., p. 365.

*Astelia spicata*,<sup>780</sup> n. sp.

*Plant* small, cæspitose, sub-grass-like, throwing out many young ones from axils of lower leaves; epiphytical on the lower bare branches of trees, and on prostrate trees and logs, forming small thick tufts. *Leaves* thickish, spreading, 6–9 inches long, 3–7 lines wide, sessile, much dilated at base and clasping, linear-elongate, acuminate, distichous, falcate, light-green, almost glaucous, slightly keeled, glabrous above but slightly scurfy and margined (above) with a narrow silvery shining line of closely adpressed hairs, hoary below, much as in *A. polyneuron* (*supra*), obscurely 6-nerved, striated, and with short transverse veins near base, and finely ciliated with white hairs at margins, and on midrib below: *scape* (female) erect, 2 inches long, cylindrical, succulent, and (together with pedicels) clothed with fine and closely adpressed silky white hairs; *spike* 1½ inches long, bearing 25–30 flowers; the lowermost four, however, are distant from each other and pedicelled, each one of them is also singly bracteated with a long leaf-like lanceolate bract, the lowermost one being 3 inches long; the upper flowers are subsessile, clustered in a dense cylindrical obtuse spike; a few only of the lower ones are free on very short pedicels, each one having a subulate reddish bracteole, 6–9 lines long, hanging downwards from its base: *perianth* free half-way down, white, shining, very membranous, semi-transparent; *lobes* long, oblong-ovate, obtuse, thickened at tips, and one-nerved, at first completely enclosing the ovary, though open and gaping at the sides; afterwards they are wholly recurved from the centre of the same, which is still embraced closely below by the tube, when the whole assumes [336] a light-brown scarious appearance: *ovary* large for the plant, ovate obtuse, succulent, green, slightly marked above with three sutures: *style*, 0: *stigma* sessile, trifid, finely penicillate and spreading: *anthers* (infertile) opposite segments, long and linear, almost subulate.

*Hab.*—In the forests about Kopua and Norsewood, North Island, 1878–1881: flowering in December. Often found in a leafing state on trees and logs, but perfect specimens are rarely met within reach. This, however, in those parts, is mainly owing to the settlers' cattle, which seem very fond of this plant, apparently preferring it to much other good green food around.

This is an interesting little species, by far the smallest of all the epiphytical ones of this genus; and, indeed, the smallest of all our known New Zealand ones, save the smaller alpine one (*A. linearis*), found by me on the summits of the Ruahine mountain range;<sup>781</sup> and by Dr. Sir Jos. Hooker in Auckland and Campbell Islands. This species is so very distinct, that (although I have not yet detected a perfect male plant) I have ventured to describe it from the female ones. Some leafing states of it remind one at first sight of a large species of *Luzula*.

## Class III. CRYPTOGAMIA.

## ORDER 1. FILICES.

## Genus 22. POLYPODIUM, Linn.

*Polyodium (Grammitis) paradoxum*,<sup>782</sup> n. sp.

*Plant* small, cæspitose, suberect, 4–6-fronded, with a compact mass of large light-brown scales at base; *roots* many, long, filiform, rich dark-brown and very hairy; *fronds* thin, submembranaceous, sub-sessile, linear-lanceolate or ligulate, subfalcate, very obtuse at apices, 2–3¼ inches long, 1–1½ lines broad (broadest part about middle), decreasing very gradually quite to base, light-green above, lighter below, villous on both sides with long reddish hairs, margin entire but slightly undulated, ciliated with stout long red hairs; midrib black-purple, flexuous, scarcely continued to apex; *veins* alternate, rather distant, simple, and only once forked on the inside, not produced to the edge; *sori* separate, oblique on inner fork of veins, rather nearer the midrib than the margin, rich red-brown, from close to apex downwards throughout two-thirds length of the frond, at first linear-oblong afterwards elliptic, completely hidden by long villous adpressed whitish hairs growing from each side of the sori and permanent; *scales*, at base, large, ovate-acuminate, 1–1½ lines long, thin, shining, finely reticulated, chesnut-brown. [337]

*Hab.*—Forests between head of Wairarapa Valley and Manawatu River, 1850 (W.C.); also near Takapau, S.W. end of Ruataniwha Plains, Hawke's Bay, 1881 (Mr. John Stewart); on the ground.

This little fern has been long known to me, though, originally, only from a single plant of some 4–5 fronds, discovered by me in 1850, and though often sought (in subsequent travelling through those woods) never again met with: specimens of its fronds were sent to Sir W.J. Hooker; those, however, were not in so good a state (being only old) as these I have lately received from Mr. Stewart. And, no doubt, at Kew, those have been considered and described as belonging to *Polyodium australe*. To this, however, I could never consent, for I know *P. australe* well; two other allied yet much smaller New Zealand ferns, have also been described with it, *viz.*, *Grammitis ciliata* (*mihi*),<sup>783</sup> which always grows in single plants on trees—and a curious stout dwarf broadly spatulate form, from holes and cavernous places in the rocks on the hills, which always grows in dense masses.

*Polyodium australe* (or *Grammitis australis*), *vera*, with which (as I take it) other allied ferns have been mixed up, is altogether a very different plant, and possesses characters not to be found in *P. paradoxum*, and vice versa. That fern was originally described by its discoverer, the celebrated botanist R. Brown, who also (as he says) had the great advantage of seeing it in its living state; Brown describes it as "frondibus linearibus v. lanceolato-linearibus obtusiusculis, integris glabris, marginibus simplicibus."<sup>784</sup> And just so its latest describer, Bentham, who describes it more fully and from ample specimens, obtained from various places in Australia and Tasmania, saying—"Fronds entire, coriaceous, glabrous, ... contracted into a short stipes.

780 *Colospermum spicatum* (Colenso) Skottsberg.

781 WC: Not, however, "in swamps" ("Handbook New Zealand Flora," p. 284), but on the open hill-tops, with *Caltha*, *Euphrasia revoluta* and *antarctica*, *Myrsine nummulari-folia*, etc.

782 *Grammitis ciliata* Colenso.

783 WC: Described in "Tasmanian Journal of Natural Science," vol. ii., p. 166, 1843.

784 WC: *Prodromus* "Flora Novæ-Hollandiæ," p. 2.

Veins ... once or twice forked, free, and concealed in the thick substance of the frond.”<sup>785</sup> Bentham also includes with it a new species of Baker’s—*P. diminutum*, from Lord Howe’s Island; which also has a “creeping rhizome, surfaces naked, and texture rigidly coriaceous.”<sup>786</sup> This new species of Baker’s, I may further observe, is also placed by him as coming next in regular natural succession to *P. australis*, and, like that species, belonging to what he has classed as the “Eremobryoid series (of the genus), having their stems articulated at the point of junction with the (creeping) rhizome;”<sup>787</sup> to which natural series the plant I have above described does not belong. [338]

Sir W. Hooker, in his “*Species Filicum*,” gives a full description of *P. australis*, (in which, however, other allied plants from other countries, described by other botanists, are also by him included,)—in his description, he says,—“at the base and also on the stipites deciduously hairy, the rest at least in maturity glabrous.” Baker also, in his late edition of “*Synopsis Filicum*,” describes *P. australis* as having, “Rhizome creeping, texture coriaceous, stipes and both sides naked or slightly ciliated,”<sup>788</sup> and Dr. Sir Jos. Hooker, both in his “*Flora Novæ-Zealandæ*,” and his “*Handbook of the New Zealand Flora*,” describes *P. australis* as being “glabrous, pubescent, pilose, or ciliate,” etc., etc.—done, as I take it, and as I have already observed, to embrace all our New Zealand allied plants in one specific description; believing them to be but one species; but there are great natural and characteristic differences separating them.

The rather coarse and long villous adpressed hairs on the under side of *P. paradoxum*, growing across and hiding the sori, and giving it there a kind of coarse matted arachnoid appearance, the persistent stout marginal rufous hairs, and the numerous large and reticulated basal scales,—together with each plant being of strictly defined single cespitose growth,—are good natural characters not pertaining to *P. australis, vera*.

***Polypodium (? Goniopteris) pennigerum*, Forst., var. *hamiltonii*,<sup>789</sup> W.C.**

*Rhizome* erect, tufted: *fronds* 15–18 inches high, glabrous, oblong-lanceolate, very membranous, pinnate, slightly pinnatifid at top, light-green; *stipes* and *rhachis* slender, subsucculent; *rhachis* and *mid-rib* hairy above, hairs light-brown; *pinnules* opposite, distant, slightly petiolate, broadly linear-elongate, not acuminate, pinnatifid to below the veins very nearly to mid-rib, middle ones 3 inches long, 1 inch broad, lowermost pairs very distant, small and auricled upwards, the upper ones are sometimes forked near tips; *lobes* large, 5–6 lines long, 3 lines broad, very irregular, puckered and crisped, deeply cut into 4–5 incisions on each side, truncate, retuse, and sharply pointed, the *sinus* between the lobes large and semicircular; veins, 4–5 pairs to each lobe, opposite, distant, free throughout; *sori* globose, few, only a single sorus central on each of lowermost pair of veins: *stipes* 2–2½ inches long, scaly at base; *scales* ovate, obtuse, rich dark-brown, and finely reticulated.

*Hab.*—Wet rocky sides of mountain streamlets, country S.W. from Napier, North Island; found by Mr. A. Hamilton in 1881.

This is an elegant species (or new variety) of fern, and will, I have no doubt (if it continues true), become a garden favourite; at present, plants of it are thriving well in Mrs. Tiffen’s fernery in Napier. For some little [339] time it has been a puzzler, as it was not originally found bearing fruit, and its richly crisped very membranous form was so widely different from all our New Zealand ferns; yet, from its regular and simple venation, etc., I supposed it to be closely allied to *P. pennigerum*. This is now proved, from the plants in cultivation having produced fruitful fronds bearing similar sori, whence this description is in part made; but another great and striking difference is the not-meeting of the lower pair of veins (as in that species), the lobes being separated much beyond them; and this character (if constant) would cause the removal of this fern from *Goniopteris*. There are also other and great differences between these two ferns; still, I cannot bring myself to consider them as really specific—time, however, will show. I have very great pleasure in naming this pretty plant after its zealous discoverer.

***Polypodium (Goniopteris) pennigerum*, Forst., var. *giganteum*,<sup>790</sup> W.C.**

Whole plant, pretty nearly as *P. pennigerum*, is described in “*Handbook Flora of N.Z.*” (and in other botanical works), but with these differences:—*Fronds*, 5–6 feet long, 14–16 inches wide, broad-oblong lanceolate; *stipes* very stout, woody, semi-circular, deeply channelled on upper surface, and marked on both upper outer edges with a continuous white ridge, scaly below; *scales* scarious, large, 2–3 lines long, ovate, rich dark-brown, elegantly reticulated; *rhachis* and midribs of *pinnules*, hairy (*hirsute*) above; *pinnules* 7–8 inches long, 1¼ inch broad, broadest at base, sub-petiolate, acute, alternate, distant, patent, largely and regularly conniving towards apex but not falcate; *lobes* 7–8 lines long, 2–2¼ lines broad, linear-oblong, slightly falcate, rather distant, toothed, margin recurved, and slightly and sparsely hairy at tips and edges; *sinus* between the lobes acute; each lobe with 9–10 pairs of *veins*, lowest two pairs of veins opposite, those above sub-opposite, and all bearing a single sorus, the lowermost two veins meeting the opposite two above them, and so generally throughout the pinnule; the lowermost pair of lobes on each pinnule are the longest, the lowermost lobe is auricled, the auricle bearing 1–2 sori extra on small veinlets.

*Hab.*—Skirts of woods and thickets, head of River Manawatu; 1875–1881.

This fern seems to be a large var. of *P. pennigerum*, possessing however several characters differing from that plant, which are noted above. *P. pennigerum*, the common form, is also plentiful in the same localities. I have long known this plant, but should not care to bring it forward, were it not for the still more striking var. (or species) discovered by Mr. Hamilton (*supra*). [340]

785 WC: Bentham’s “*Flora Australiensis*,” vol. vii., p. 762.

786 WC: “*Syn. Fil.*,” p. 507.

787 WC: Loc. cit., p. 319.

788 WC: Loc. cit., p. 322.

789 *Pneumatopteris pennigera* (G. Forst.) Holttum.

790 *Pneumatopteris pennigera* (G. Forst.) Holttum.

**ORDER 5. HEPATICÆ.****Genus 3. PLAGIOCHILA, Nees and Montagne.*****Plagiochila subsimilis*,<sup>791</sup> n. sp.**

*Rhizome* stout, creeping, long, irregular, densely covered with short brown hair, much-branched, with many long rootlets; *main stems* pretty close together, erect or pendulous, 6–8 inches long, flattish, sulcated on back, very dark purple-brown almost black, sometimes forked below, 1–2 inches from base, and occasionally each of those main stems again forked; bipinnately branched, sub-fastigiate; branches crowded above, 3–5 inches from base, patent, plane, taken together 2–3 inches broad; *stems* rich red-brown and semi-translucent; lowermost pair of branches opposite, others sub-opposite and alternate; all, together with main stem, closely leaved throughout: *leaves* laxly imbricate, opposite, distichous, patent, dimidiate-ovate; apices obtuse and rotund; light green, translucent, finely and irregularly toothed (*denticulato-ciliatis*) on ventral side and round the apex, dorsal side entire, slightly recurved and greatly decurrent; those on middle of main stem subrotund and larger, above 1 line in length, decreasing in size downwards, lowermost very much smaller, alternate and 1 line apart, and sometimes slightly denticulate also on dorsal edge; *involucral leaves* more rotund, and more closely and deeply ciliate-toothed. *Perianth* produced, 1 line long, elliptic or broadly obovate, apiculate (*obtusus cum acumine*), inflated, whitish-brown, semi-transparent, terminal on upper branches and on short lateral branchlets near the tops; sometimes 2–3 perianths very nearly together; lips very large, open, entire. *Calyptra* cylindrical, enclosed, half the length of the perianth; *seta* longer than perianth, erect and nodding; *capsule* exserted, free, oblong-ovate, rich deep brown.

*Hab.*—On standing (living) and fallen rotten trees, and on earth damp sides of watercourses, “Seventy-Mile Bush” forest, head of the Manawatu River, Hawke’s Bay; 1875–1881. Some living trees have their trunks completely hidden with the dense growth of this plant.

A fine species, having pretty close affinity with *P. stephensoniana* and *P. gigantea*, and in the shape of its leaves with *P. annotina*; and belonging to that same dendroid section of the genus.

**Genus 11. GYMNASIA, TAYLOR.*****Gen. nov. Marsupidium*, Mitten.*****Gymnанthe (Marsupidium) hirsutum*,<sup>792</sup> n. sp.**

*Rhizome* creeping, slightly hairy. *Plant* thickly tufted, sending out long stoloniferous succulent branches, erect, 1–2½ inches high, simple and 2–6-branched, drooping at tips; colour of leaves and young stems a lively green (which it retains in drying), of the short stipes, yellowish. *Leaves* [341] pinnate, sessile, free, alternate, patent, 1 line or a little more long, sub-quadratus with a single deep notch at apex and nearer to the inferior side, slightly arcuated on the superior side, and very finely and closely toothed on its outer corner and round it a little way on the apex: *sac*, or *torus*, sub-terminal on both main and lateral branchlets, sub-

globose or broadly oval, 1½–2 lines long, densely hirsute-hispida, colour light brown.

*Hab.*—On shaded clay banks and on rotten logs near watercourses in thick wood near head of the River Manawatu, North Island; 1879–1881.

A species possessing close affinity with *Gymnанthe tenella*, Taylor, and *Marsupidium knightii*, Mitten.

This species I have long known in its barren state; and although it appeared to be very nearly allied to *Gymnанthe tenella*, Taylor, of New Zealand and Tasmania (*vide “Fl. Tasmaniae”*), yet I could never quite believe it to be the same; and now that I have found it pretty copiously in fruit, I am certain of its specific distinction. *G. tenella* is fully described by Taylor (who established the genus on that species), in “Lond. Journal of Botany,” vol. iii., p. 377 (and in “Syn. Hepatic.,” p. 192), and a drawing of it is also given in the “Fl. Tasmaniae.” In foliage and in size and in manner of growth the two plants are very much alike; still, the leaves of this species are not so closely set, and have many more and finer serratures at the apex (9–10) than there are in that one, which usually bears but three. But the chief distinction is in its *sac* or *torus*, which in *G. tenella* is described as “elongato obconico striato”; while in this species the same part is densely shaggy, almost echinate when fresh.

In the “Handbook of the New Zealand Flora,” p. 520, *G. tenella*, *G. saccata*, and *G. urvilleana*, with other *Hepaticæ*, were all lumped together under the one species—*G. saccata*. (This, to me, who had formerly collected them all in New Zealand, seemed surprising, as I could not discern much of a close resemblance between them.) Subsequently, however, Mitten broke up the genus (though but a small one) into several new genera,<sup>793</sup> and in so doing not only restored the three above-mentioned species of *Gymnанthe* (which I was pleased to see) but even separated them into distinct genera.

It is not, however, stated in which of those new genera *G. tenella* is now placed; possibly in *Tylimanthus*; but this plant of mine will, I think, be found to rank naturally with *Marsupidium*, and seems pretty closely allied (judging from the short description) to Mitten’s new species, *M. knightii* (p. 753, *l.c.*), which is also a New Zealand species.

### 1881 On the fine Perception of Colours possessed by the ancient Maoris (Addendum to Art. III.).

*Transactions of the New Zealand Institute* 14: 477-484.<sup>794</sup>

*[Read before the Hawke’s Bay Philosophical Institute, 10th October, 1881.]*

I purpose here noticing more particularly some of the errors in Mr. Stack’s paper; those especially which I have not referred to in my paper.<sup>795</sup>

793 WC: See “Handbook N.Z. Flora,” pp. 751–754.

794 Professor Scott spoke to the Otago Institute in support of Colenso (Otago Witness 14 November 1885).

795 WC: See above, p. 49.

791 *Plagiochila stephensoniana* Mitt.

792 *Tylimanthus tenellus* (Tayl.) Steph.

At page 154<sup>796</sup> Mr. Stack says:—“What stage had the colour-sense of the Maori reached before intercourse with Europeans began? This can readily be ascertained by reference to the terms existing in the language at that date, for giving expression to the sense of colour.”

I deny that this can “readily be ascertained” even by any expert Maori scholar; still it was, and is known; but not in the bald way that Mr. Stack supposes.

He then goes on to say, that “there are only three colours for which terms exist” (!) which he also follows up with certainly erroneous attempts at derivation of his three Maori terms, relying as he tells us upon “a few standard works, which will always serve for reference, whenever a question may arise as to the meaning of any word in the language. One of the most reliable of these is the translation of the Bible, the work of Archdeacon Maunsell,” etc.

Here I note, (1)—“for reference as to the meaning of *any word* in the language.” Now this remark alone would, *a priori*, confirm me in my supposition of Mr. Stack’s insufficient knowledge of Maori. There are hundreds, [478] aye, thousands of Maori words that are not to be found in the works he mentions; and it was my certain knowledge of this fact which led me to undertake the heavy work of the Polynesian (or New Zealand) Lexicon,<sup>797</sup> which knowledge was also both increased and confirmed in me as the years of labour therein rolled on.

(2.) That the translation of the Bible into Maori was *not* the work of Archdeacon Maunsell. The New Testament was translated and in use before Archdeacon Maunsell arrived in New Zealand; so were the Book of Psalms, and other Books and parts of Books of the Old Testament; the original translation of the New Testament being mainly the work of the late Dr. Williams, the first Bishop of Waiapu. That Dr. Maunsell largely aided (under Bishop Selwyn) the zealous hard-working band of coadjutors concerned in the present edition is correct.

(3.) Then, most astonishing of all, Mr. Stack goes on to quote even *Greek words* from the *Septuagint*, to meet certain Maori words used in the present translation of the Old Testament!

In the conclusion of his paper, Mr. Stack winds up with saying,—“In common with the colour-blind the Maori confounded the lighter tints of several different colours,—and were *blind to blue*.”

In my paper (*supra*) I have shown the contrary of these assertions; and I bring this sentence forward here (*re the blue*) just to meet one of Mr. Stack’s chief and earliest Septuagint quotations. He gives us, *υακινθον*—blue (Exodus xxv., 4).

(1.) Is he aware that this Greek word means other dark colours equally with blue?

“By Homer, Odysseus’ hair is likened to the hyacinth (*υακινθος*), and the ancient Greek commentators, to whom the conception was not yet so foreign as to us, quite correctly refer the simile to the black colour (*μέλας*). Pindar

speaks in the same sense of violet locks. With Homer, also, the word *κιάνος* (our *cyan*) is the deepest black. The mourning garment of Thetis he calls *κνάνεον*, and at the same time ‘black as no other garment.’ The same colour-term is applied to the storm-cloud, and the *black* cloud of death, and several times by adding *μέλας* it is distinctly explained as black.” —Gieger, *Frankfort Lectures*, 1867).

(2.) Would Mr. Stack be surprised to hear that perhaps the Hebrew word in that place (*tepaylēt*) does not, or may not, mean blue? This is what some of the *old* and learned doctors have said about it in their translations [479] and comments:—“Kimchi explains *tepaylēt* by *bleu*; Abarbanel translates, *silk*; Ebn Exra, Rashi, and others, *yellow*; and Luther, *yellow silk*; others, *indigo*—(but *υακινθος* is not exclusively blue),” etc., etc. (Dr. Kalisch, *in loc.*)

Mr. Stack further says (p. 154),—“The Maoris appear to have reached the third stage of colour-sense development, when, *all at once*, the arrival of Europeans *revealed* to them the *entire scale* of colours possessed by *the highest races of mankind*.”

Mr. Stack will find that in the earliest mental productions that are preserved to us of the various peoples of the earth the colour *blue* is not mentioned at all.

“Let me first mention the wonderful, youthfully fresh hymns of the Rigveda, consisting of more than 10,000 lines; these are nearly all filled with descriptions of the sky. Scarcely any other subject is more frequently mentioned; the variety of hues which the sun and dawn daily display in it,—day and night, clouds and lightnings, the atmosphere and the ether,—all these are with inexhaustible abundance exhibited to us again and again in all their magnificence; only the fact that the sky is *blue* could never have been gathered from these poems. ... The Veda hymns represent the earliest stage of the human mind that has been preserved in any literature; but as regards the blue colour, the same observation may be made of the Zendavesta, the books of the Parsees, to whom, as is well known, light and fire, both the terrestrial and heavenly, are most sacred, and of whom one may expect an attention to the thousand-fold hues of the sky similar to that in the Vedas. The *Bible*, in which, as is equally well known, the sky or heaven plays no less a part, seeing that it occurs in the very first verse, and in upwards of 430 other passages besides, quite apart from synonymous expressions, such as ether, etc., yet finds no opportunity either of mentioning the blue colour. ... The *Koran* does not know the blue colour either, however much it speaks of the heavens. Nor is the blue sky mentioned in the *Edda* hymns. ... Nay, even in the *Homeric Poems* the blue sky is not mentioned, although in the regions where they originated it exercises such a special charm on every visitor. ... The ten books of Rigveda hymns, though they frequently mention the earth, no more bestow on it the epithet green than on the heavens that of blue. They speak of trees, herbs, and fodder-grass, of ripe branches, lovely fruit, food-yielding mountains, of sowing and ploughing, but never of green fields. Still more surprising is the same phenomenon in the Zendavesta.

“Aristotle, in his ‘Meteorology,’ calls the rainbow tri-coloured—viz., red, yellow, and green. Two centuries before, Xenophanes had said, ‘What they call Iris is likewise a cloud, purple, reddish, and yellow in [480] appearance;’ where he leaves out the green, or, at all events, does not clearly define it. In the *Edda*, too, the rainbow is explained to be a tricoloured bridge.

796 WC: See “Trans. N.Z. Inst.” vol. xii.,—and so throughout, whenever Mr. Stack’s paper is referred to.

797 WC: I have often—aye, almost constantly—lamented, that the Government did not carry on this work: had such been done, neither Mr. Stack nor myself had written our papers.

"Democritus and the Pythagoreans assumed four fundamental colours, *black, white, red*, and *yellow*, a conception which for a long time obtained in antiquity. Nay, ancient writers (Cicero, Pliny, and Quintilian) state it as a positive fact that the Greek painters, down to the time of Alexander, employed only those four colours... . The Chinese have since olden times assumed five colours, viz., green in addition to the foregoing."—(Gieger, *loc. cit.*)

And so Max Müller.— "There is hardly a book now in which we do not read of the blue sky. But in the ancient hymns of the Veda, so full of the dawn, the sun, and the sky, the blue sky is never mentioned; in the Zendavesta the blue sky is never mentioned; in Homer the blue sky is never mentioned; in the Old and even in the New Testament the blue sky is never mentioned. It has been asked whether we should recognize in this a physiological development of our senses, or a gradual increase of words capable of expressing finer distinctions of light. No one is likely to contend that the irritations of our organs of sense, which produce sensation, as distinguished from perception, were different thousands of years ago from what they are now. They are the same for all men, the same even for certain animals, for we know that there are insects which react very strongly against differences of colour. ... Democritus knew of four colours, viz., black and white, which he treated as colours, red and yellow. *Are we to say that he did not see the blue of the sky because he never called it blue, but either dark or bright?* ... In common Arabic, as Palgrave tells us, the names of green, black, and brown, are constantly confounded to the present day. It is well known that among savage nations we seldom find distinct words for blue and black; but we shall find the same indefiniteness of expression when we inquire into the antecedents of our own language. Though *blue* now does no longer mean black, we see in such expressions as 'to be black and blue' the closeness of the two colours. ... As languages advance, more and more distinctions are introduced, but the variety of colours always stands before us as a real infinite.... . As no conception is possible without a name, I shall probably be asked to produce from the dictionaries of Veddas and [481] Papuas any word to express the infinite; and the absence of such a word, even among more highly civilized races, will be considered a sufficient answer to my theory. Let me, therefore, say once more that I entirely reject such an opinion. ... The infinite was present from the very beginning in all finite perceptions, just as the blue colour was, though we find no name for it in the dictionaries of Veddas and Papuas. The sky was blue in the days of the Vedic poets, of the Zoroastrian worshippers, of the Hebrew prophet, of the Homeric singers, but though they saw it they knew it not by name; they had no name for that which is the sky's own peculiar tint, the sky-blue."—(Lectures at the Charter House, 1878: LECTURE I).

"It is noteworthy down to what a late period both the Greeks and the Romans still confounded blue and violet, especially with grey and brown. Even long after scientific observation had separated these colours they seem to have been mixed up together in popular conception. And thus it happened that Theocritus, and, in imitation of him, Virgil, by way of excuse for the bronzed hue of a beautiful face, could still say, "Are not the violets, too, and the hyacinths black?" With a similar intention Virgil says: "The white privets fall; it is the black hyacinths which are sought after and loved." Nay, even Cassiodorus, at the beginning of the sixth century after Christ, gives an account of the four colours employed in the Circensian Games, which, as is well known,

sometimes acquired a fatal significance: green had been dedicated to spring, red to summer, white, on account of the hoar-frost, to autumn, blue to the cloudy winter—*venetus nubilæ hiemi*. Classical antiquity, in fact, possessed no word for pure blue.... . The Romanic languages found indeed no fit word for blue in the original Roman tongue, and were obliged partly to borrow it from the German. Thus, among others, the French *bleu* and the older Italian *biavo*, are, as is well known, borrowed from the German *blau*, which, in its turn, in the earliest time signified black."—(Gieger, *loc. cit.*)

I have been at the trouble of bringing forward all this first-class authority evidence, to show—(1) that "the highest races" did not possess "the entire scale of colours;"—(2) that had the Maoris not been already in possession of the knowledge of colours, and of their shades and hues, "the arrival of Europeans" among them would not suddenly have "revealed" such to them;—and (3) that such a wholesale mental revolution, as Mr. Stack here states, has never, and could never take place "all at once."

I feel, however, that I must specially notice two or three more of Mr. Stack's statements.

He says (p. 155)— "Kura (red) is used very often instead of *whero* to describe redness in any *inanimate* object."

Mr. Stack evidently never heard of any of their (many) old supernatural beings, still believed to be existing, called *Kura*; and was not *Kura* a common term for the chief men in the olden time? e.g.— "I te orangia o tenei motu, he *Kura te tangata*." [482]

Again (p. 156)— "While they regarded the rainbow as a divinity, ... to their organ of sight it presented *one* characteristic tint, and that was *ma* (white), or allied to light."

This assertion I have already fully met in my paper (*supra*); but I would further ask—Why, then, was it so commonly called *Kahukura*— "scarlet," or red, garment?

Mr. Stack also quotes the well-known passage in Isaiah i, 18, for "scarlet and crimson." But the "scarlet" of King James' days (the time of the translators of the English Bible) was not the same identical colour as the scarlet of to-day. Our modern scarlet was not then known.

Again (p. 155), Mr. Stack says, "Pounamu, or greenstone, ... is sometimes used now as a colour-term. *Karupounamu* = green-eyed, is the term applied to persons with light-coloured hazel eyes, but I never heard *pounamu* used to describe the colour of the sea."

I refer Mr. Stack to one of "the few standard works" which he quotes —Sir G. Grey's "Mythology," pp. 158, 159 (or to his "Poetry of the New Zealanders," pp. xciii., xciv.), where he will find two sentences in excellent Maori, *re* the colour of the eyeball, and of the water, in both of which the *pounamu* is used as a simile.<sup>798</sup> Evidently, he has also overlooked the little bird called *Titipounamu* (*Acanthisitta chloris*),<sup>799</sup> the shark called *Tahapounamu*; the lizard called *Pounamu-kakanourua*; the early winter potato of the Ngapuhi

<sup>798</sup> WC: See "Trans. N.Z. Inst.," vol. xi., pp. 97 and 98, for my translation.

<sup>799</sup> WC: Observe here how Dr. Sparrmann (who accompanied Captain Cook to New Zealand) naturally hit on the same term in colour for this bird (*chloris*) as the Maoris had formerly done.

tribe called *Pounamu*; our northern lakes called *Rotopounamu*; and the *Aupounamu*, the *Waipounamu*, etc., etc. Again, in my two editions of the Maori Bible (one in 12mo. and one in 8vo.), the passage in Esther i. 6, contains the word *pounamu* for green colour, and not that “Maoricized” abomination—*karini*—which Mr. Stack quotes.

Mr. Stack also says (p. 156), "*At the suggestion of Europeans* the indigo blue plumage of the *pakura* (*Porphyrio melanotus*) is sometimes employed to indicate the colour, which before intercourse with Europeans was *unrecognized*." These two statements (which I have italicized) I deny; and I should not care to do so here, only to show that I had written to the direct contrary in 1865 ("Essay on the Maori Races," § 33).<sup>800</sup>

Further, Mr. Stack says (same page), "No words are found in the Maori language to express violet, brown, orange, and pink colours; but there are no less than three words to express pied or speckled objects." This is [483] incorrect, as my paper (in part) will show, where brown, orange, and pink are brought forward. And as to there being "no less than three words for speckled objects," I know more than a dozen!

Again, Mr. Stack says (p. 156),— “Further proof of their imperfect perception of colour is furnished by the fact that the Maoris have never shown any real appreciation of floral charms. ... Flowers generally were despised, and the greatest astonishment was expressed by Maoris in the early days, when they observed the pains taken by colonists to cultivate any but flowers of the gaudiest hues.”

Here I observe,—(1) Flowers were *not* despised; very far from it. It was owing to their fading so quickly, especially when in close contact with the human body; I have known, however, young chiefs often to fix a flowering sprig in their ears. It was not the national custom of the Maori women to decorate their hair, for they generally wore it cropped (*vide Cook and others*); but I knew them at an early date to bind their hair with a graceful wreath of *Clematis* (*C. colensoi*, and *C. hexasepala*), and of *Lycopodium volubile*, and not unfrequently with a neat green fillet of fresh flax. (See plate xix., in Parkinson's "Journal;" Parkinson was Sir Joseph Banks' draughtsman, and here in New Zealand with him.) (2) The Maoris never wantonly destroyed "right and left" the shrubs and small trees around them,—like the "superior" or (to use Mr. Stack's own words) "the *higher races*" invariably did; it was a pleasing sight to see their hastily putup booths or "tabernacles" in travelling, or abutting on their country plantations and river and seaside fishing grounds, their *karaka* fruit and bird preserves,—always made in a snug bowery place; even the common privies of their *pas* (towns) were often so situated, and I have known such public spots with planted and trained shrubs and creepers (*Solanum aviculare*, and *Muhlenbeckia adpressa*) growing over them; and they never cut down the trees growing near for firing, fencing, or any purpose; rather than do such wanton acts, they would travel miles to procure poles, sticks, etc.<sup>801</sup> (3) That "astonishment" experienced "in the early days" was not *re* flowering plants of non-gaudy hues, but plants *not* producing *fruit* (tubers, etc.). From long before Mr. Stack's earliest recollection the Maoris planted with "pains" the potato, the onion, the melon,

and the cabbage; the flowers of these did not possess “gaudy hues;” but being a practical people, a true race of hard-working agriculturists, they were astonished at such waste of labour, good ground and fences, in non-productive plants.

Mr. Stack also says (p. 158),— “They (the Maoris) seem to have *lost* all sense of harmony in colouring.” *Qu.* Could they lose what (he had repeatedly said) they never possessed? [484]

Further, and lastly, Mr. Stack says (same page),— “Most persons have had an opportunity of observing the incongruous colours in which a Maori belle arrays herself when seeking to attract admiration in our streets. Her mode of adornment proves that her sense of colour is still very defective. She knows each colour by name<sup>802</sup> but she has an imperfect mental conception of it, and therefore cannot realize what a fright she makes herself by wearing colours that will not harmonize.” Mr. Stack might more justly have applied these words to a fashionably dressed *European* female, such as I not unfrequently meet with here in Napier. Take out the word *Maori* and insert *European* or *Colonial*— and the sentence is complete. Such, almost word for word, I have last year frequently seen in our more respectable papers, English and Colonial, when writing on the horrid deformities of the fashionable and bizarre female dress of the day. In my estimation, the Maori woman of to-day has been so far vitiated and debased in taste as to run after and adopt those ultra European fashions.

I have thought it necessary thus freely to criticize Mr. Stack's paper in the interests of our English and European philological and physiological writers (as Max Müller, Herbert Spencer, Darwin, Tylor, Lubbock, etc.), who, in the prosecution of their studies and researches, naturally look to such a volume as our New Zealand Institute "Transactions" for correct information *re* the Maoris: and to allow such erroneous notions and statements, however innocently made, to remain unchecked, would never do.

I wish to add, that I do not believe that Mr. Stack has erred *wilfully*; and, further, that if, even now, he were to travel leisurely among the Maoris in the interior of the North Island, he would himself soon discover many of his errors, and abandon them.

802 WC: I suppose that some of those colours of dress, she is said now to know by name, are such as the following, e.g.:—	
plum-colour	rose-colour
lavender-colour	orange-colour
lemon-colour	claret-colour
sage-green-colour	pea-green-colour
fawn-colour	mouse-colour
dove-colour	salmon-colour
etc. etc. etc.	

etc., etc., etc.  
Now where is the very great difference in expression, or rather, say, the superiority, of these of the Europeans over those of the Maoris, by whom similar natural objects having the exact shade of hue required were also used comparatively?

**1882 On some newly discovered  
New Zealand Arachnids.**

*Transactions of the New Zealand Institute* 15: 165-173.

[Read before the Hawke's Bay Philosophical Institute,  
11th September, 1882.]

IN bringing before you this evening the few curious and fine *Arachnids*, forming the subject of my present paper (of which I also exhibit specimens), I would first, by way of introduction, call your attention to their systematic position in the great Animal Kingdom. I am the more especially inclined to do this for two reasons:—1. Because of the youthful part of my audience; and, 2. Because these animals (with many of their congeners and allies) are popularly, though erroneously, included under the one general term of *Insects*. These animals, however, do not belong to the class *Insecta*, but to the allied one of *Arachnida*, which is also a large and varied one, and includes all Spiders, Scorpions, Mites, etc., etc.

My subject and specimen No. 1, will, I think, be found to belong to the family of *Phalangidae*, or to the next one of *Pseudoscorpionidae*,—or, what is not unlikely a link connecting both. As far as I know, hitherto only one [166] species of this last-mentioned family has been detected in New Zealand; and that is a small species of the genus *Chelifer*, (one closely allied to *C. cancrioides*) which, I think, I first detected in the neighbourhood of the Bay of Islands, in 1838–1840, and of which early mention was published in 1843.<sup>803</sup> This animal, however, I now bring before you, making the second found in New Zealand of that or some closely-allied family, is a very different animal from that former one; and although naturally allied to that genus can scarcely belong to it as it is now constituted; and is a very puzzling creature. Indeed I do not know exactly to what known genus to refer it, hence I have provisionally given it the rather peculiar name of *Phalangium (Phrynxus) cheliferoides*; as, under the old Linnæan classification, this animal would be placed in his genus *Phalangium*; but I have good reasons for doubting its being placed there now; the more modern genus *Phrynxus* (of all the genera taken out of the Linnæan genus *Phalangium* known to me) seems to be pretty near to it, but of this I am not quite certain from lack of the necessary books of reference.

**PHALANGIUM (PHRYNXUS) CHELIFEROIDES.<sup>804</sup>**

*Body* 3½ lines long, 2 lines broad, broad-oval, smooth, firm; posterior extremity roundly-obtuse, terminating in a produced point; anterior extremity truncate; *cephalothorax* and *abdomen* in one, no perceptible separation; *shield*, lateral and posterior margins thickened; *abdomen* cylindrical, elevated, thick, slightly marked above and below with five transverse segmental markings; *colour* (general) when fresh, black; after immersion in spirits, dark brown-black.

*Eyes*, 2, globular, small, prominent on an elevated cylindrical ridge on the top of caput, but nearer to posterior margin of shield, one on each side of the elevation, which is divided in the centre and muricated; *clypeus* broad, studded with minute elevated black points.

*Falces* very long, first joint 5 lines and second joint 6 lines long, stout, cylindrical, largely chelate, thickly muricated, swollen, clavate or subpyriform for 2 lines towards top; *claws* (chelæ) two-thirds of a line long, arcuated, with a single large tooth in each, superior one overlapping, tips black; *maxillary palpi* 5-jointed 5 lines long, finely hairy throughout, mostly so at the upper part; *colour* pure white, red-pink at the bases and blackish at tips, which are blunt and each bearing a single minute black hook; *mouth* underneath, nearly central, prominent; *maxillæ* semi-circular; *lower lip* notched and both slightly hairy.

*Legs*, 8, very long, 2½ inches and upwards, cylindrical, and finely filiform. each with a single minute curved black hook at the tip, second pair of legs [167] the longest, measuring nearly 3 inches. *Colour* (after keeping in spirits) brown, variegated with many small white spots and rings which under a lens present a subtesselated appearance, those white rings are swollen and appear as if jointed, each bearing two (or more) minute black spines; *coxæ* large, prominent, slightly hairy, hairs patent; *trochanter* very short, smooth; *femur* 7 lines long, beset with short spinous hairs; *tibia* (genual joint) 1 line long, smooth; *metatarsus* of the second pair 6 lines long, (in the other three pairs this joint is only 3 lines long,) with a few short and scattered hairs, and four equidistant white rings; *tarsus* 1 inch and 8 lines long, hairy particularly towards tip, very finely annulated in the upper part and very flexible: this last joint of all the legs is exceedingly fine and flexible and curved at tip; when the animal is taken out of spirits for examination it is very difficult to keep this long last joint steady.

*Sternum* very small; *anus* produced.

*Hab.* In dark forests, among long mosses and Hepaticæ on the trunks of living trees 6–8 feet from the ground, “70-mile Bush,” between Norsewood and Danneverke, 1879–1881.

This curious and strange animal has greatly puzzled me, not knowing of any genus, or even family, to which it might rightly be referred. In its peculiar and prominent characters it seems to partake of more than one family of *Arachnida*, as they are at present constituted. In its body and long filiform legs it agrees with *Phalangium*, in its long chelate falces with *Pseudoscorpionidae* (*Cheliferidae*); it evidently has also some relationship to *Thelyphonidae* through *Phrynxus*, particularly in its extra long and filiform (antennæ-like) second pair of legs; while its large and bent maxillary palpi bear close analogy, if not affinity, with those organs in our endemic genera (of *Orthoptera*) *Deinacrida* and *Hemideina*. There may, however, be some known genus to which it can be hereafter rightly referred; at present I have done my best here (without modern scientific works on *Arachnida*), and by naming it as I have done I have placed it near to its proper place in the Natural System.

Believing this *Arachnid* to be very scarce, and having but one perfect specimen, I have not cared to break it up so as to examine it more narrowly, especially as to its buccal apparatus. I have only seen four specimens in the woods, throughout three years, although from my first seeing one in 1879 (which I failed to capture), I have sought most diligently for specimens. In the following year I accidentally, and most unexpectedly, saw another in the same forest, and though I tried long and arduously to secure it without smashing, I failed to do so; it spread out its long flexible legs so prodigiously, that in the end it escaped among the thick vegetation. Its [168] movements, however, were not fast; but it wore such a strange appearance —

803 WC: In “Tasmanian Journal of Natural Science,” vol. ii., p. 300.

804 *Stet.*

black, with its pure white palpi, and its uplifted threatening chelæ, that I, bearing in mind our small blackish *katipo* spider, was on my guard; perhaps too much so.<sup>805</sup>

In that same year, however, I found, in the evening, among my thick long mosses in my vasculum, one of these *Arachnids*, or rather the anterior half of one without its abdomen, etc.; it was still living and could crawl slowly. Subsequently, in 1881, I secured another and a perfect specimen from among the thick-growing and long *Plagiochila subsimilis* (and then not on the surface, but within!) How the creature can possibly manage to crawl through such fine and dense vegetation is a marvel to me. It generally keeps its long falces upright, or inclining towards its back, and bent at a sharp angle, and sometimes moves them forward alternately in progression, much like a hand or a foot: and sometimes, like its congener *Chelifer (supra)*, holding them up with distended claws in a threatening attitude.

My second lot belong to the family *Araneidae* (or True Spiders), and contain three fine species; two of them are, I believe, quite new, and one has been already described in the Trans. N.Z. Inst., but is still little known.

You will, no doubt, remember that at our ordinary meeting held here in August, 1881, I had the pleasure of bringing before you specimens of a fine spider I had then recently received from one of our country members; at that time I promised to lay before you a paper<sup>806</sup> containing its description, habits, etc., and this I now do.

From that kind country member, Mr. J. Drummond, who resides at Te Ongaonga, I learn (in answer to several letters) that in July, 1881 (our wet season and mid-winter), while engaged in making a drain in some low-lying swampy land, he noticed several large spiders, which were dug up from about twenty inches to two feet under the surface, and though amongst black swampy soft soil, they always came out of the mud quite dry and clean, with their skins looking like velvet. [169]

The spot seems to have been a remarkably soft one, of a loose spongy muddy nature; for early in the following month (August) he thus writes:— “I found these four spiders, now sent, from one to two feet under ground; but what was black swampy soil last month, is now mud since the heavy rains. This mud seems to boil up through cracks in the upper stratum of clay. I put a bar of iron down sixteen feet, and found soft mud only, and no bottom.”

On the 19th of August he again writes: “In further carrying out your wishes I have again been a-spider-hunting, and I give you the result. I found a round hole  $\frac{3}{4}$  in. in diameter in the elevated side of the drain. In carefully cutting into it I first came upon thousands of ants! I never before found so

805 WC: Having here alluded to the bite of the katipo spider, I should also say (lest I should be misunderstood) that I do not support those monstrous stories respecting the effects of its bite, which some have related; (some of those accounts are, I think, to be found recorded in the early volumes of the Trans. N.Z. Inst.). In past years I had several cases of persons bitten by the katipo brought to my notice, including Europeans and Maoris: some of them I had also to attend to medically, and so watched the cases; and while the effects of the bite are generally pretty severe at first, they are transient, being completely over by the second day, leaving no after effects; and never, I believe, caused death, or anything like it.

806 WC: See Proceedings, Trans. N.Z. Inst., vol. xiv., p. 566.

many in one spot. This hole ran nearly horizontally, and was about 6 in. in depth; it was lined throughout with spiders' web, and its bottom was also covered with web; two spiders of small size were in the bottom of this hole. I also found two wings of an insect with the spiders at the bottom; these I also send you with them. The *clay*, etc., on the outside of the entrance to the hole was excavated from within and thrown down. Another similar hole had a blue-gum leaf fastened down with web across its entrance, but there was nothing in it. Another hole, which ran 8–9 inches vertically, had a big spider reposing in the bottom. I could not find any more large spiders, but there are plenty of small ones left. None feigned death on being captured; on the contrary they always ran nimbly away, endeavouring to hide themselves by getting *under* anything. They run very quickly with their legs spread out all round. One of the largest (of those I first sent you) when dug out fell from off the shovel into the drain, and immediately dived under the liquid mud! I plunged the shovel in after it and brought up a shovel-full of mud, and the spider was among it, looking as clean and dry as if it had never been in it, which quite surprised me. Their colours, I find, are much darker after being immersed in the spirits; the yellow stripes are not near so bright as when they were living, and their velvety appearance wholly gone.”

Since receiving the foregoing communications, I have had at various times down to the present, several letters from Mr. Drummond, but nothing additional of consequence has been discovered. I much wished to obtain a specimen of a *male*; for, although I have received several specimens, both large and small, they are all females; and I regret to say that I have not yet succeeded. This, however, is no uncommon occurrence among the *Araneidae*, as it is well known that the males are everywhere fewer in number than the females and consequently much more rarely met with; besides, I believe it is pretty well ascertained, that among the *Territelariae*, or trap-door spiders, the male is never found within those holes or tubes. And as [170] there are at least two distinct divisions or families of trap-door spiders inhabiting Europe, (the one with a bung-like or cork-door lid fitted into its nest, and the other with a wafer or flapdoor lid to fall down over its entrance; some of these last-mentioned having also a second door of thick web fitted on a kind of hinge within the tube), I greatly wished to know, if possible, under which division this one should be classed; but down to the present have learned nothing more respecting the lid, or door, though Mr. Drummond has zealously sought after it. Moreover, there is yet another closely-related family (or division) of spiders, living in holes and cracks, which, while they also spin a web within, do not make any door to their nests or holes: these are called *Tubitelariae*.

The Order of *Araneidae* (or True Spiders) is an immense one; it is largely represented here in New Zealand, and is daily increasing in books from everywhere. I have noticed in vol. xxx. of the “Linnæan Transactions” (published in 1874), that the Rev. O.P. Cambridge has given a corrected and enlarged list of the number of British spiders alone, containing 78 genera and 457 species, while the number of the foreign ones is legion! This extensive Order has been from time to time subdivided into families and genera, which have been often altered, insomuch that it requires an expert—and a highly-skilled one too—to pronounce certainly on any species. Therefore I have concluded not to attempt to fix on any known genus of *Araneidae* as being that to which this spider (and another I shall also this evening bring before you) properly belongs, for I have not that special knowledge requisite, neither have we here the

modern scientific works on spiders which would assist us in our search. This, however, will not prove to be a very formidable hindrance to our shortly knowing something more definite about these two spiders, for I intend sending specimens by an early mail to England, to the Rev. O.P. Cambridge (one of our greatest modern British aranologists) for his judgment and determination. This gentleman has already described some of our large New Zealand spiders in the Trans. N.Z. Inst.,<sup>807</sup> and among them is also a trap-door spider from Otago, sent him thence by Professor Hutton and Mr. Gillies; but that species is a different one from our *two* contained in this paper, although it may be not distantly and naturally allied to them. From the disposition of the eyes of these two spiders, I doubt their belonging to the same genus as the trap-door spider from Otago described by him.

#### No. 1.—, spider from Te Ongaonga.

##### DESCRIPTION.

*Adult female*, length 10 lines, exclusive of falces.

*Cephalothorax* broad-oval, truncate at each end, posterior extremity much the broader, finely and velvety hairy; upper part of shield smooth; [171] *thoracic portion* rather flat; *head* slightly rounded above, with a few erect black bristles about the eyes; very hairy on lateral edges, and a slight line of hairs running down the indentation and increasing at the base; *colour*, rich umber-brown, with three longitudinal lines of light yellow-brown, one narrow down the back central, and two broader down the sides, all with irregularly crenated margins; lateral edges of shield below the line of a lighter brown.

*Eyes*, 8, unequal in size, in two rows (their position slightly resembling those of the genus *Philodromus*), 4 anterior in a line in front, and 4 posterior in a curved line above, with the convexity towards face, and the largest at the four corners.

*Legs*, strong, hairy; *colour* brownish, but lighter than the shield, with scattered black bristles above running somewhat in lines, none below; *metatarsus* and *tarsus* clothed with blackish hairs; relative length of legs 4 1 2 3, the fourth pair 13 lines long; *sternum* small, almost circular or deltoid-cordate, a little broader in front than behind, convex, very hairy, colour dark brown.

*Palpi* stout and strong, 4½ lines long, very hairy, increasing in hairiness forward; radial and digital joints densely clothed with black hairs; *falces* strong, prominent, black, and shining, with black and brown hairs about their bases; *maxillæ* large, hairy.

*Abdomen* about equal length with cephalothorax, oval, slightly convex above, and a little higher than cephalothorax; *colour* brown, same as legs but darker, and still darker below; very finely and densely hairy; three longitudinal yellow-brown stripes (in continuation of those on cephalothorax) running half-way towards posterior end and vanishing, and two lines of distant sunken black dots, 3–4 in a line, running downwards.

I think the old females change their colour, losing their light yellow-brown stripes, and becoming nearly wholly brown.

#### No. 2.—, spider from Napier.

This species I have found here in my garden on several occasions, and always in a similar situation—viz., in a hole

in the earth below the surface. In plunging a large flower-pot (of hyacinths, &c., after flowering) into the earth up to its rim, and leaving it there till the following early spring, I am pretty sure of finding one of these spiders in a large hole or burrow underground by the side of the pot. The hole is oval, and as large as a pigeon's egg, about 3–4 inches under the surface, and dark, without any apparent outlet (though such may exist), and devoid of a vestige of web within and without. When taken out and exposed to the light this spider feigns death, and quietly allows itself to be taken up and removed. I have only found them solitary, and (as in the former case) have not yet met with a male. [172]

##### DESCRIPTION.

*Adult female*, length 11½ lines, exclusive of falces.

*Cephalothorax* broad oval, truncate at both ends, posterior extremity much broader; 5½ lines long, and 4 lines wide at the widest part; *thoracic portion* raised, convex, bare of hairs on top; *head* slightly rounded above; *clypeus* very truncate; largely hairy around eyes and face; three slight thoracic segmental markings running down each side; *indentation* sunk, smooth; *colour* rich dark red-brown, with light-brown and greyish coarse hairs, and a narrow light-coloured continuous stripe along the lateral and posterior borders of shield, with the hairs immediately above it of a shade of darker brown.

*Eyes*, 8, unequal in size, in two rows, (their position, etc., resembling those of the genus *Tegenaria*.) 4 anterior, smaller and equal in size, 4 posterior, the two central ones large, but the two corner ones largest, and more prominent and laterally inclined.

*Palpi* moderately stout, 4 lines long, hairy, with a single large black spine at end of the radial joint; *falces* prominent, black, shining, and (with *maxillæ*) bearing long shaggy hairs.

*Legs* medium stout, *colour* rich dark red-brown, hairy with black hairs, increasing in hairiness towards the tips, and having a few scattered black spines, and two black hooks at the tips; *coxae* very large, smooth and shining in the gibbous parts; *femora* stout and but slightly hairy; two longitudinal rows of strong black spines on *tibia* and *metatarsus* below; the *joints* white, with small black spines; relative length of legs, 4 1 2 3; the fourth pair 14 lines long; *sternum* red-brown, medium size, broad oval, almost flat, slightly hairy, hairs adpressed.

*Abdomen*, 6 lines long, 4 lines wide, broad oval, hairy, convex above and higher than cephalothorax, the ground of a brownish colour, mottled or irrorated throughout, and very finely dotted with light yellow-brown; two lines of light-brown circular spots equidistant, and five spots in each line, running down towards posterior end; *spiracles* large central, close under base of sternum; *spinners* produced, long.

As I found it impossible to describe wholly and minutely the falces, palpi, and buccal organs of these spiders, without breaking up my specimens and gumming their parts severally down, I forbore to do so, preferring to leave those parts partly undescribed for the time, and so send my perfect and best specimens to England.

#### No. 3. MACROTHELE HUTTONII, Cambridge.

This large spider is also from my garden, and is one of those I mentioned as having been described by the Rev. O.P. Cambridge; and I merely bring it before you to exhibit it,

807 WC: Vol. vi., p. 187, and vol. x., p. 281.

and to say a few words respecting its habits and economy; which, I believe, were unknown to its describer.<sup>808</sup> [173]

This fine spider is by no means uncommon with me; its habitat is often inside an unused and empty inverted earthen flower-pot; if such has been standing in the garden untouched for a year or so, one is pretty certain to be found within it, quietly and snugly ensconced in the midst, or beneath a very large web, spun thickly across the pot in all directions, yet leaving a large and somewhat tortuous passage for the spider; the web itself is of a bluish cast. In the pot are also sure to be found the elytra of pretty large Coleopterous insects, which, no doubt, enter through the hole in the inverted bottom of the flower-pot. Another fine resort for these spiders is under the large wooden cover of my concrete underground water-tank; this cover is scarcely ever removed oftener than once in two years, and there, beneath it, they are to be found, sometimes three or five, but always dwelling apart, in darkness, and concealed in their large extensive bluish webs. This spider also feigns death on its being captured. I have only hitherto detected one male, which, as the Rev. O.P. Cambridge states (and as is generally the case), is smaller than the female.

In one of those specimens of this spider now exhibited (all being females) you will notice that it had formerly lost a leg, which is being supplied by a new (and, at present, a smaller) one. Some of the female specimens of this spider that I have taken, are considerably larger than those described by the Rev. O.P. Cambridge; in all other respects, however, they agree with his scientific description.

#### ADDENDUM.

A few days after the reading of my paper on some New Zealand Arachnids (the same having been noticed in one of our local papers), I received by train a small tin box from a friend in the country, 60 miles distant south, "containing," as he said, "two fine living specimens of my big spider" (*Macrothele huttonii*). On opening the box there was but one of them alive, the other not only being dead but completely dismembered!—every leg torn off at the coxal joint, and the cephalothorax separated from the abdomen. These two spiders were both females, and were of a very large size; the living one was the largest specimen I had ever seen, and was wholly uninjured and very lively. There was nothing put into the little tin box with them, neither moss nor paper. That they would fight and kill, cooped up as they were in such a narrow space, was certain, but that the victor should proceed to such extreme lengths as to tear the conquered one into pieces was new, at least to me. And as this incident seemed an addition to our knowledge of the animal's habits and economy, I have added it.

808 WC: For the full description, and a drawing with dissections of this spider, see Trans. N.Z. Inst., vol vi., p. 200.

#### 1882 A description of four new Ferns from our New Zealand Forests.

*Transactions of the New Zealand Institute* 15: 304-310.

[Read before the Hawke's Bay Philosophical Institute,  
12th June, 1882.]

#### I. *Cyathea*, Smith.

*Cyathea tricolor*,<sup>809</sup> sp. nov.

*Plant*, arborescent; *trunk* stout, 5–12 feet high, bulky at base and at top, 1 foot diameter there, fibrous at base and for 2–3 feet up, thickly clothed with broken stipites at top; colour, light-brown.

*Fronds* numerous, 30–40, tri-pinnate, spreading, drooping, glabrous, shining, 7–8 feet long, 38–40 inches broad in widest part, oblong-lanceolate not acuminate, decreasing very gradually downwards, sub-membranaceous, dark-green above, white below.

*Stipes* very stout, 3–3½ inches girth at base, short, 3–4 inches long, obscurely triquetrous, flattish or a little rounded at top, and slightly channelled towards base, brittle, succulent, gummy, dark-olive green above, peculiar bluish-white below, prickly with small fine sharp black prickles, ¼ inch long, recurved, scattered, in some places very closely set, 2 to a line, and sometimes running in irregular rows; *scales*, at base of stipes, very numerous, long, shining, dark-brown, 2 inches long, and 2 lines broad at base, flat, thin, very acuminate, finely striated longitudinally, margins entire, crumpled towards top, concave and transversely corrugated at base.

*Rhachis*, main and secondary, glabrous, bright golden-yellow above, finely and floccosely tomentose below with deciduous ferruginous tomentum, bluish-white underneath, subcylindrical not channelled below, (but channelled above in dried specimens), main rhachis (and stipe) marked longitudinally on both upper outer edges with a line of oblong-lanceolate brick-red scars, and having 2–3 of such, red blotches at the base of each pinna, always nearer to the upper angle.

*Pinnæ*, distant (4–5 inches) on rhachis, alternate sometimes opposite, lowest two pairs opposite, the largest near the middle 18–19 inches long, 8–9 inches broad, drooping. [305]

*Pinnules* (secondary divisions), sessile 3½–4½ inches long, 10–12 lines broad, broadest at base, triangular, finely and very beautifully acuminate, apices finely and regularly serrated to tip.

*Segments*, sessile, 5–6 lines long, 1 line broad, linear, entire, margins conniving in fruit and subcrenulate at sori, pointed, distant, falcate, lower pinnate and pectinate, the single lowest segment on the underside of pinna subpetiolate; veins red, 9–10 jugate on a segment, simple, forked, and branching.

*Sori*, in axil of fork of veins, nearer midrib than margin, numerous, crowded filling segments, large, regular, biserrate, 14–18 on a large segment, dark-brown, extending to tips of pinnules and pinnæ, with always one close set in at base of segment to rhachis of pinnule.

809 *Cyathea dealbata* (G.Forst.) Sw.

*Involucr*, a shallow circular cup, margin entire, rarely breaking-up.

*Receptacle*, broadly clavate, pubescent; showing point of insertion by a pit on upper side of segment.

In both its young and barren state this species of *Cyathea* might be easily confounded at first sight with the well-known and ubiquitous New Zealand species *C. dealbata*, from its being equally as white on its foliage below. On examination and comparison however, of living specimens, the two whites on the under foliage of the two plants will be found to differ greatly,—that of this one possessing a bluish tint, (just the hue of the oxidized corrugated iron roofing of our houses,) which colour is more particularly shown on its thick and succulent stipes, which are also thickly set with small sharp black prickles. Indeed, in its young and barren state, the whiteness of the underside of the fronds of this species, often shows even more conspicuously than that of *C. dealbata*, when a frond is turned up or half-reversed in its native woods; owing to the much greater contrast arising from the darker-green of its upper foliage.

In its many colours, too, this fern is peculiar:—1. its shining darkgreen upper foliage; 2. its large, thick, glossy golden-yellow prominent stalks (rhachises, main and secondary); 3. its white underneath, appearing so solid, unbroken, through its being so glabrous there also, and not having there any large coloured scales or hairs; and 4. (when in fruit) its shining dark-brown clusters of large sori, showing to advantage on their white ground. Indeed, I might truly enough have specifically named it *versicolor*.

Another striking peculiarity of this species when in fruit, is its general and regular drooping appearance, and that, not merely of its large fronds inclining forwards and downwards, as obtains with some other of its congeners (as *C. medullaris* and *C. polyneuron*), but its characteristic threefold, or even fourfold, manner of drooping:—firstly, its fronds outwards and [306] downwards; secondly, their pinnæ downwards and inwards towards the main rhachis; thirdly the pinnules downwards and inwards towards the secondary rhachises; and then, fourthly, the very fruiting segments themselves conniving inwardly:<sup>810</sup>—the whole *tout-ensemble* being peculiar among our tree-ferns, and most graceful.

Owing to its many colours, its drooping compact shape, and its being much more of a dwarf (though stout) tree-fern than its congeners, fully bearing fruit when only five feet high, it wears a very peculiar and striking appearance (especially when looking down on it from a height a little above)—one that attracts the eye immediately.

I have long known this fern in its young and barren state; and I had always a suspicion that it was really distinct from *C. dealbata*; but Dr. Sir J. Hooker had so clearly stated that *C. dealbata* was our only tree-fern bearing “fronds” that were “white and glaucous below,” that I confess I have been for a considerable time thrown off my guard with respect to it. But during this last autumn, while botanizing in another and unvisited part of the Seventy-mile Bush, I fell in with several plants of this species, of various sizes and ages, and

many of them bearing fruit in profusion, so I had ample means and opportunity for examination.

*Hab.* Deep forests (Seventy-mile Bush) on eastern outlying spurs of the Ruahine Mountain Range, between Norsewood and Danneverke villages; April, 1882.

## II. *Dicksonia, L'Heritier.*

*Dicksonia gracilis*,<sup>811</sup> n. sp.

*Plant*, arborescent; *trunk* 10–15 feet high, slender, greyish-brown; on upper portion remains of old stipites, and at top a few dead fronds hanging down; bearing young plants and shoots 2–3 feet from the base.

*Fronds*, 40 and upwards, sub-membranaceous, glabrous, 5–5½ feet long, 2–4 feet wide, tripinnate, oblong-lanceolate, patent, light-green above and lighter-green below, upper portion very free and loose not compact.

*Stipes*, 9–10 inches long, at first upright and inclined inwards towards trunk, sub-clasping, with a large quantity of loose light red-brownish hairs at bases, and a dense layer of lighter coloured hirsute tomentum adhering beneath; *hairs*, 1½ inch long, cylindrical, tapering, excessively fine towards top, straight and lax, shining as if varnished, regularly jointed, 6 joints to 1 line, semi-bulbous at base; *stipes* and *rhachises* dark-brown below, shining as if varnished, and thickly muricated throughout to apices of pinnæ with [307] fine raised black points; *main rhachis* deflexed from stipe, longitudinally sulcated above; *stipes* and *rhachis* densely hairy when young; hairs, patent, red-brown.

*Pinnæ*, 15 inches long, 4–5 inches broad, about 3 inches apart on rhachis, petiolate, triangular, broadest near base, acuminate ending in a very fine point, densely covered with red-brown strigose hairs above on rhachis of pinnæ.

*Pinnules*, sub-opposite, distant, 2–2½ inches long, broad, linear-oblong, broadest near base, acute, sub-falcate, petiolate, glabrous above on midrib, hairy below and also on midrib of segments; *barren pinnules* pinnatifid, *fertile* pinnate.

*Segments* free not crowded, sessile, alternate, oblong, 3 lines long, 1 line broad, obtuse, apices rounded, slightly and sparingly serrate, sub-falcate, lowermost one on upper side of pinnule regularly overlapping secondary rhachis; fruitful segments very distant, regularly crenulate through contraction by sori, auricled, lowest pair petiolate; *costa* prominent above; *veins*, 5-jugate, forked and simple.

*Sori* numerous, crowded, occupying the whole of the segment, small, globular, biseriate, 8–10 to a segment.

*Involucr*, outer valve sub-cucullate, margin entire, about ½ line long, remaining green-coloured when dry.

The buds, shoots, and young plants of various ages and sizes, bursting forth from the stem of this fern-tree, was a curious and pleasing sight—and, to me, a novelty. They were scattered around the main stem, 8–12 inches apart, and at different heights, but all within 2–3 feet from the base; from them I gathered fronds of various sizes, the largest 12 inches long,—one, 7 inches, and one, 4 inches long, exclusive of stipe; these are all very soft in foliage, bipinnate only, with stipes and main and secondary rhachises exceedingly hairy with long patent jointed

810 WC: This habit, however (so widely different from that of *C. dealbata*), makes it a very difficult matter to lay out and dry a specimen flat; indeed, I have been obliged to abandon it, save in a few small segments, although I took with me into the forest portfolio having remarkably thick covers.

811 *Dicksonia squarrosa* (G.Forst.) Swartz.

hairs,—quite a miniature of the large fronds of the parent plant. Some of the smaller shoots like big buds, apparently just bursting, possess most delicately fine, long, and soft hairs, almost curly, coloured and jointed like those of parent plant.

This species of *Dicksonia*, in general appearance, somewhat resembles *D. squarrosa*, but wants the black trunk and stipes, the harsh and dry pointed and mucronate coriaceous foliage, and black hairs and bristles of that species, as well as the persistent hanging of its old withered fronds around its trunk, which is almost characteristic,—besides the much smaller fronds and small round sori, and the peculiar habit of bearing shoots and buds on the trunk of this species. It has the slenderest trunk, as well as the most airy and light appearance in its crown of fronds, of all the New Zealand *Dicksoniae* known to me. [308]

*Hab.* In low-lying forests between Norsewood and Danneverke, "Seventy-mile Bush," April, 1882.

### III. *Hymenophyllum*, *Smith.*

*Hymenophyllum megalocarpum*,<sup>812</sup> n. sp.

*Plant* terrestrial and epiphytical, sarmentose; rhizome glabrous; *roots* and *rootlets* densely villous with long red-brown spreading hairs.

*Stipes*,  $\frac{1}{2}$ – $2\frac{1}{2}$  inches apart on rhizome, 2–4 inches long, generally much shorter than the frond, cylindrical, glabrous, glossy, stout, wiry, flexuose, red-brown, sometimes greenish.

*Frond*, tri-quadri-pinnatifid, deltoid or deltoid-acuminate, 3– $4\frac{1}{2}$  in. long, 3– $4\frac{1}{2}$  inches broad at base, sometimes slightly acuminate, upright or slightly decurved, spreading, membranous, semi-pellucid, light-green, glabrous, not shining, not elastic; *pinnae* and *pinnules* crowded, imbricate; *main rhachis* and *secondary rhachises* red coloured, winged throughout; *wings* crisped; *very young fronds* slightly scaly below with red-brown wrinkled deciduous scales on stipes and rhachis; *primary pinnules* opposite, falcate, lowermost pair deflexed; *secondary pinnules* sub-opposite and alternate, sub-secund, falcate, cuneate below, very thickly set, overlapping, outermost free.

*Segments*, or *lobes*, regular, narrow, linear, 1–3 lines long, width under  $\frac{1}{2}$  line, obtuse, entire, plane, terminal sometimes forked, very rarely elongate; *veins* prominent.

*Involucres* on lateral segments, very large, much wider than segments,  $\frac{1}{12}$ – $\frac{1}{8}$  inch wide at widest part, divided down to base, turgid, open, spreading and recurved, obconical, semi-elliptic, deltoid, and suborbicular, sometimes twice the size of the clusters of sori, entire, emarginate, sometimes slightly crenulate at apex, often geminate, sometimes two from one vein, and sometimes even three together.

*Sori* in large rotund clusters and coloured red, prominent, exserted, sometimes two clusters within one involucre; *capsules* very large, convex, glossy.

This species of *Hymenophyllum* is (as I take it) a striking and interesting novelty; owing to its large clusters of richly-coloured sori, and their still larger and spreading involucres or involucral leaves,—in their manner of growth almost resembling those of a small cabbage or lettuce around its heart,—and also with (in some places) its twin clusters of

sori within one involucre, and arising from a single vein. I know of nothing like it among our many and varied species of *Hymenophyllum*; although this species is not so large as several of the New Zealand species of this genus, its clusters of sori and involucres are the largest that I know,—larger than those of *H. scabrum* and *H. dilatatum*. Its affinities, however, (though slight), are with the old well-known and [309] common species *H. demissum* and *H. polyanthos*, and with the new one *H. erecto-alatum*, particularly this last, and had its stipes been winged, and the wings there and on its rhachises subvertical and deeply crisped, as in *H. erecto-alatum*, I should have been inclined to have set it down as a variety of that species, notwithstanding its extra-large and peculiar involucres and sori. Apparently the smaller the frond the more profuse its sori, which in some small specimens is densely thick and heavy, and then contracting the whole frond. Its clusters of sori are also coloured bright-red when very young, long before they become mature.

*Hab.* In open woods, in the Seventy-mile Bush between Norsewood and Danneverke, both on the ground (but not growing thickly) and climbing trees—particularly the trunks of the tree-ferns, arborescent *Dicksoniae*—1881, 1882.

### IV. *Asplenium* *Linn*

*Asplenium anomodum*,<sup>813</sup> n. sp.

*Plant* small, suberect, spreading; *caudex* very short and stout, scarcely any; *stipites* thickly tufted, 1– $2\frac{1}{2}$  inches long, rather slender, green, densely clothed at base with very large reticulated glossy black scales; *roots* fibrous, not long, compact, numerous, brown, thickly covered with short shining hairs; *fronds*, 4–6 (living ones) to each plant, 2– $4\frac{1}{2}$  inches long,  $1\frac{1}{2}$  inches broad, ovate-acuminate, pinnate, with a long terminal obtuse pinna subrhomboid-lanceolate, about 2 inches long or twice the length of the largest of the lateral pinnae, with sometimes a small lobe at the base; *pinnae*, 3–4 pairs, petiolate, distant, patent, alternate, rarely subopposite, 6–14 lines long, 3–6 lines broad, ovate, sometimes broadly elliptic, dimidiate, obtuse and rounded at apex, generally decreasing in size from the middle of the frond downwards; the base cuneate and excised below, and truncate and subauricled above; *colour* grass green, a shade lighter below; *margins* cartilaginous, coloured, and bluntly serrated, often only crenulate; *petioles* slender; *texture* membranaceous, glabrous above, scaly below on the veins with scattered long fine dark and scarious scales, having divaricating laciniæ at base (almost stellate), similar in texture to those at base of stipites, only very much smaller; *veins* apparent, subflabellate, simple, and forked, with no distinct costa, subclavate at apices and not extending to margin; *rhachis* slender, narrow, channelled above, and (with stipe) scaly, with long twisted dark scarious scales like those on veins of frond.

*Sori* generally few, distant, scattered, and very irregularly distributed, 1, 2, or 3 (and sometimes, though rarely, 5, 6) on a pinna, occasionally more, 8–18, on the terminal pinna; at first long, afterwards broad-elliptic, [310] thick and very prominent, and sometimes confluent, distant from both midrib and margin, but more so from the margin; *involucre* linear-oblong, whitish, very membranous and semi-pellucid; edge slightly erose.

*Scales* at base, black, glossy, deltoid-ovate very acuminate, 8 lines long,  $1\frac{1}{2}$  lines broad at base, reticulations large,

812 *Hymenophyllum demissum* (G.Forst.) Sw.

813 *Asplenium lyallii* (Hook.f.) T.Moore.

subspaghoid parallelogrammic, very conspicuous; margins entire and sparsely and irregularly fringed.

*Hab.* On decomposing limestone ridges, forests near Norsewood, W.C.; at Takapau, Mr. J. Stewart; and at Te Aute, Mr. C. P. Winkelmann.

This plant has some natural affinity with two of our well-known New Zealand species—*A. obtusatum* and *A. hookerianum*—although it widely differs from both in appearance; those two ferns also belonging to two very different sections of the genus. Were some of the characters of this fern not so discordant with those of either of the two aforementioned species, I should have classed it as a variety of one of them. It seems, however, to partake in several points of both those species, and may yet prove to be a step towards uniting them in a regular natural sequence.

It differs from *A. obtusatum* in the form of its pinnæ, especially the terminal one, in their texture and in that of the stipes rhachis and petioles, in colour, in venation, and in the form of its sori and scales. It is more nearly allied to *A. hookerianum*, in the texture of its frond and its venation, in the slenderness of its stipe rhachis and petioles, in the disposition of its lateral pinnæ, in its colour, and in its large (often solitary) sori, and scales; but differs in being only once-pinnate, with larger entire and simple regular pinnæ on shorter petioles, its very large terminal pinna, and thick stout tufted head or caudex. It has scarcely any natural affinity with another small New Zealand pinnate species or variety, *A. paucifolium*, Hook., (a plant I formerly obtained from those same localities), which is, I believe, a dwarf variety of *A. lucidum*. Its peculiar and beautiful large basal scales approach very near to those of *A. paleaceum*, Br., from Queensland, and to those of *A. sandersoni*, Hook., from Natal. The scales of this plant are truly wonderful objects under a microscope.

It is only after an extra large amount of study, examination, and research, that I have concluded to advance another new species of *Asplenium*; and I confess I should not have done so, had I not fortunately obtained an unusually large number of good specimens—not merely of single fronds but of entire plants—and their uniformity is great.

### 1882 On the large Number of Species of Ferns noticed in a small Area in the New Zealand Forests, in the Seventy-mile Bush, between Norsewood and Danneverke, in the Provincial District of Hawke's Bay.

*Transactions of the New Zealand Institute* 15: 311-320.

[Read before the Hawke's Bay Philosophical Institute, 8th May, 1882.]

OUR adopted country, the colony of New Zealand, has long borne a great name for its Ferns, owing, perhaps, as much to their being everywhere so common (exclusive of the ubiquitous brake fern, *Pteris esculenta*), from the lowest level on the sea-shore, its rocks and cliffs, up to nearly the highest point of vegetation on the alpine ranges,—as to their large number of genera or of species; although the

surpassing beauty and novelty of some of them have justly served to raise their fame. In respect to their number of species, New Zealand is very far ahead of our British Islands, which only contain 48 species of true ferns; but then this truly natural order is but poorly represented in Europe. On the other hand, the neighbouring larger Australian colonies contain nearly twice the number of species hitherto found in this colony. In their natural state, the open plains and hills of New Zealand were almost everywhere covered with the common rusty-looking *Pteris esculenta*; and the woods were filled with numerous species and genera, not merely terrestrial, growing on the ground like other plants, and including several fine and famed arborescent species (commonly called tree-ferns), but also a good number of epiphytical ones, only found growing on trees, and then only in the deepest umbrageous and damp recesses of the forest; there, alike protected from winds and heat, and unvisited by animal ravagers in the shape of cattle, they flourished in charming profusion.

According to Dr. Sir Jos. Hooker's "Handbook of the New Zealand Flora," there were, at the time of its publication (in 1864), 120 species of ferns (exclusive of varieties) found in New Zealand, belonging to 31 genera. Of those 120 species, 5 should be deducted, as having been only hitherto detected in the off-lying islets in what is called the New Zealand botanical region, viz., the Auckland, Campbell's, Lord Howe's, and Kermadec Islands; thus leaving 115 species described in the "Handbook" as pertaining to New Zealand proper.

During the last few years I have made a practice of visiting the woods and forests of this district several times in the year, and on each visit have become more and more impressed with the almost unlimited resources of bountiful Nature—especially in her botanical productions, and particularly in what is called her lower forms, viz., of Cryptogams. It would require a series of papers, and that from far abler pens than mine, to give a mere list [312] of her manifold beautiful treasures in the natural orders of *Musci*, *Hepaticæ*, *Lichenes*, and *Fungi*, with which our New Zealand forests everywhere teem, not a few of which are still unknown to science; although a large number of them have already been published by Dr. Hooker in the "Flora Novæ Zealandiæ," and in the later work above-mentioned, and some others since in several of the later volumes of the "Transactions of the New Zealand Institute."

It has ever been a pleasing thought with me to consider what great, what new, what expansive ever-growing delight awaits the future generation of zealous nature-loving New Zealand naturalists in this particular branch of natural science. When the Mosses, the Liverworts, the Lichens, the Fungi, and the Algae (including the invisible Desmideæ) of New Zealand shall have been, in the course of future years, discovered and drawn and accurately described,—much as similar botanical research and work has been done in our fatherland,—in the Hepaticæ of Sir W. Hooker ("British Jungermanniæ," and in "Musci Exotici"), and of Mitten; the Bryologia of Wilson; the Lichens of Babington, Lauder-Lindsay, and Leighton; the Fungi of Berkeley, Greville, and Cooke; the Marine Algae of Professor Harvey; the Fresh-water Algae of Hassall; and the Desmideæ of Ralfs;<sup>814</sup>—

814 WC: I am well aware of what has been so largely and efficiently done in all those natural orders by many eminent continental cryptogamists, as Schimper, C. Müller, Hedwig, and Schwægrichen, Gottsche, Lindenbergs, and Nees, Acharius, Fee, and Nylander, Fries, Corda, and Tulasne, Agardh, and Kutzing,

when this is all accomplished, as it ought to be under the increasing light of science (and so done it will be), then the generation of that day, and subsequent ones, will have much, very much, to be thankful for and to admire.

On the present occasion, however, I shall strictly confine my few remarks to some of the ferns of those woods, which, on various visits of mine thither, have caught and riveted my attention.

In one spot in particular, deeply secluded in the quiet recesses of the grand old forest,—(a spot very dear to me! one which I have almost invariably visited several times, and every time with increasing delight, on each of my journeys inland),—I have repeatedly noticed and pleasingly contemplated a large number of species of ferns; more than I had ever seen growing together in all my wanderings in New Zealand; and all, too, flourishing luxuriantly. Within this circumscribed area of, say, one-eighth of a mile each way, or even less, I have found 48 species of ferns, and more,<sup>815</sup> belonging to 15 genera; or nearly half of the number given in the "Handbook" as being inhabitants of New Zealand proper. This, as I take it, is [313] surprising, bearing in mind that several of our described ferns are, as far as is known at present, particularly local; some species, indeed, having been only detected in one or two places, and there scarce; while others are chiefly confined to the South Island. Of all those rarer ones I give here a brief list, setting them down pretty nearly in the sequence of their scarcity, or of their little-known habitats.

*Gymnogramme rutæfolia.*  
*Nephrolepis tuberosa.*  
*Todea africana.*  
*Adiantum formosum.*  
*Loxoma cunninghamii.*  
*Aspidium ocellatum.*  
 " *cystostegia.*  
*Nephrodium molle.*  
 " *thelypteris var. squamulosum.*  
*Asplenium richardi.*  
*Cystopteris fragilis.*  
*Lomaria pumila.*  
 " *fraseri.*  
*Trichomanes malingii.*  
*Hymenophyllum minimum.*  
 " *lyallii.*  
 " *unilaterale.*  
*Marattia salicina*, and  
*Alsophila colensoi* (in the North Island).

And this is still the more surprising (as we shall see) when we consider the entire absence from this small limited locality of some genera more or less common to different places in New Zealand which are not included in the above list—viz., *Gleichenia*, *Lindsæa*, *Cheilanthes*, *Doodia*, *Nothochlæna*, *Lygodium*, *Schizæa*, *Ophioglossum*, and *Botrychium*; of these nine genera half of them have but one species each (in New Zealand), and of the former brief list, six genera, also, each contain but one New Zealand species; so that, of the whole number of absent genera from that one locality (fifteen), no less than eleven contain only one New Zealand species each.

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and others; but I have purposely confined my remarks to British cryptogamic botanists.

815 WC: Vide infra, including the lately-discovered new species.

And here I may be permitted briefly to mention, for the especial benefit of my lady and young hearers, and also of strangers (if any) who have not yet realized the great advantages of diving into the depths of our New Zealand forests,—that to see our ferns in all their natural beauty, they should be visited in their cool sequestered retreats and bowers and grots at *two* seasons of the year, namely, in the spring and early summer, and in the autumn verging into winter. At the *first* of these two seasons many of them [314] will be found elegantly evolving their delicate new circinate fronds,—the consummate grace and beauty of which no pen can adequately describe; while at the *second*, their mature fronds will generally be found loaded with fruit, all curiously and variously yet methodically arranged, according to their several natural genera. At the same time, I should observe, this natural evolution, perennial growing, and display, is, in some damp and suitable woods and spots, almost ever recurring.

And just as it is often with us in towns on especial occasions of meeting,—in the grave senate and in religious assemblies, as well as in the lighter ones of the concert, the ballroom, and the theatre,—the accessories, the environment, when in good taste and keeping, add much grace to the scene, the place, and the proceedings,—so it is at those two natural seasons I have mentioned. Nature must be seen in her various dresses, as well as in her different moods, to be fully appreciated. I well know that the mind only sees what the mind brings; or, in other words, it is the *feeling* that teaches or evokes the *true seeing*; for, whoever possesses the heart to feel will also have the eye to see. Bryant, an American poet, has a beautiful and truthful sentence (among many others) in the opening of his poem *Thanatopsis*, highly appropriate here—one that I have often thought on and repeated<sup>816</sup> (*solas*):

"To him who, in the love of Nature, holds  
 Communion with her visible forms, she speaks  
 A various language."

I trust, however, to point out to you in a few short imperfect sentences, a little of what there—in those woods, in that great temple of Nature, and in that loved spot in particular of which I have spoken—are the principal and more striking botanical aids, and charms and draperies, pertaining to and surrounding that lovely natural fernery.

First, then, I should tell you there is a large open space in the forest, of an oblong or an irregular oval shape, sheltered from all high winds; the centre of this oval is pretty clear of trees, save two or three large and [315] ancient pines, whose huge and irregularly-butressed trunks, and high, ridgy, uneven, and grotesque roots, all thickly dressed in climbing feathery ferns and other plants, add to the picturesqueness

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816 WC: I may be permitted to make a brief allusion to my own invariable mode of acting on revisiting those grand old woods, where fancy leads me to imagine that the trees and plants, ferns, mosses, and flowers both recognize and smilingly welcome me. Although in my saying this I lay myself open to be laughed at rather than to be followed, "wearing my heart upon my sleeve for daws to peck at," I take off my hat and salute them feelingly, and so again on leaving them for the last time. I also take care not wantonly to break off or pull up to cast aside any specimens, and always tread carefully among the lovely ferns, mosses, etc. Feelings of a similar nature must have possessed the ancient Greeks, as well as the ancient New Zealanders, who always made a deprecatory speech, addressed to the guardians (or *genius loci*) of those grand old unfrequented woods, whenever they entered them to fell a tree for a canoe or any particular purpose.

beauty of the scene. Here and there also, in the centre and in the foreground, scattered in clumps and standing singly, are several handsome tree-ferns, while the larger herbaceous ferns prominently show themselves in big tufts and masses, with the smaller ones growing thickly among them, and, as it were, under their sheltering wings. This is a very brief outline of the centre of that pleasing natural garden. It is not often that such a large and clear open space is to be met with in the midst of a thick forest. I daresay in that small piece of ground there are more than a hundred tree-ferns of nearly all sizes; some, as I said before, in the midst, and some intermixed among the trees and shrubs around it.

In the spring-summer season, in great plenty in the fore-back-ground, growing with the tree-ferns, that truly handsome shrub or small tree *Aristotelia racemosa*, is found in flower; this is one of the elegant trees of New Zealand, in its fine airy shape, in its variously coloured leaves, and in its profusion of lovely flowers, which, like the leaves, all vary in their tints and colours. With it also grow those three handsome small trees of the *Pittosporum* genus (*P. tenuifolium*, *colensoi*, and *eugenioides*), with their fancy coloured elegant glistening leaves and dark purple blossoms; and with them fine old plants of the New Zealand *Fuchsia* (*F. excorticata*), which here attain to a large size, with their numerous variegated blossoms set off to advantage by their drooping silvery-lined foliage; with here and there among them that particularly healthy-looking shining green-leaved small tree *Drimys axillaris*, one of the gems of the shaded secluded forest!<sup>817</sup> Among them also, but more sparingly found, is the graceful twining *Parsonsia* (sps.), climbing and rambling over the lower shrubs and bushes, with its slender, nodding sprays of cream-coloured blossoms. Behind all those, in the background, and towering far above them, are the taller trees of *Plagianthus*, *Elaeocarpus*, *Alectryon*, and *Knightia*, all differing largely in the forms and hues of their foliage, and all bearing in profusion their showy and curious flowers; while all around, standing out, as it were, in bold *alto-relievo*, and often rendered doubly conspicuous by their clean white bark displayed in large patches, are stately robust trees of *Weinmannia racemosa*, bearing their [316] innumerable fine and drooping racemes of flowers, their long and stout spreading branches frequently descending low down from a great height in graceful curves, after the manner of growth of the horse-chestnut of our English parks; having growing in their topmost forks and branches the curious tufted long-leaved epiphytical plant *Astelia*, somewhat resembling huge crows' nests, and serving to remind the English observer of a rookery; while from their upper trunks and limbs hang, in long drops and festoons, the handsome and showy species of climbing *Metrosideros* (*M. pendens* and *M. subsimilis*), with their pendent flowering branchlets terminating in beautiful tasseled bunches of white blossoms waving in the air; and still higher up, here and there, as if gazing down from its dark-green bowers, is the Spring Beauty of the Woods! the large-flowered lofty-climbing *Clematis* (*C. indivisa*), whose big white star-like sweet-scented flowers

(often 4 inches in diameter), and many together in garlands and festoons high up in the trees by the highway-side in those forests, are the admiration of every traveller in the spring season. And, lastly, (to enumerate no more), on the ground, in the few open spaces between the larger and the tufted-growing ferns, is to be seen that graceful living green-matted plant, *Pratia angulata*, with its profusion of peeping curious snow-white flowers.

I should not, however, omit to tell you something, though briefly, of the many minor beauties of those secluded spots in the deep forests; of the numerous dear little gem-plants of the smaller Cryptogams,—the Mosses, the Liverworts, and the Lichens, which I have already in the beginning of this paper alluded to. For these, by their great number, their densely close compacted manner of growth, and every variety of shape and hue and colour, minute though they severally are, yet, united, form and present a most striking and interesting feature; while closely intermingled among them grow luxuriantly many of the smaller filmy and feathery ferns. The colours of many of them, especially of the Lichens, are both striking and vivid; generally displaying their organs of fructification, and fruits, in profusion, and to very great advantage; and then their elegant structure, so lovely and complex, and yet so simple, on closer examination, is wondrous. To see them on the large trunk of an aged tree, some scores,—or hundreds, it may be,—of those minute plants of many hues and kinds overlying one another, growing on and in each other (*stratum super stratum*) so that they cannot be separated without pulling them to pieces, and yet all alike living, healthy, and in harmony, where they have been so growing together for many years,—perhaps, in some cases, a century or more,—is both curious and pleasing, and brings strongly to recollection (as do also the bigger ferns and other plants flourishing [317] around) the modern well-known saying of “the survival of the fittest,”—where, however, *all* seem alike to be fitting. I have often thought, when contemplating a fine and beautiful patch of richly coloured Cryptogams (like this I have just attempted to describe, or, rather, faintly to outline)—especially on seeing it in all its freshness, just after rain, and with the sun shining on it—that, should the art of fixing colours and hues in perfection by photography ever be attained, such a delightful living picture as this would assuredly early be taken, and excite great admiration, and not unlikely be largely copied in the way of mural house-decoration.

I give up all attempts at describing the few New Zealand birds to be seen there at this early season, although such greatly add to the living beauty of the scene. Prominently among them, if you keep yourself quietly hidden under the thick shrubs, is to be observed to perfection that eminently handsome and musical bird the tui (*Prosthemadera novæzealandiae*) flitting about from branch to branch in quest of honey, with its shining metallic plumage of many hues glancing in the sun, not unfrequently accompanied by a lively pair of the fan-tail flycatcher (*Rhipidura flabellifera*); and then there is the changing light of the sun itself, peering down through the lofty trees, ever and anon flecked and chequered by the passing summer clouds. One dear little black-and-white very small bird of the size of a canary (*Petroica toitoi*) I must however mention—not because of its great beauty or its song, for it is mute (or, at all events, although I have often seen it, I have never once-heard its note), but because of its peculiar habit of inquisitiveness, or something of that nature; for, as sure as I have quietly seated myself to rest awhile or to examine a specimen, this

817 WC: I don't know if any colonist (whether private gentleman or horticulturist), being an admirer of elegant and handsome shrubs, has ever attempted to cultivate this beautiful plant. Indeed, I doubt of its thriving, save in a very shaded, sheltered, and damp shrubbery. The beholding of this tree in its beauty has often served to remind me of the famed Plane-tree on the banks of the Meander, which, on account of its extreme beauty, Xerxes adorned with chains of gold, and assigned it a guard of honour, on his invasion of Greece.—(Herodotus, Polymnia, xxxi.).

little fellow will suddenly and quietly make his appearance, and hop up from twig to twig quite close, and then sit and watch intently (and with seeming gratification) all my doings. I have sometimes thought that he had previously been narrowly observing all my movements through the forest. At such times, too, queer fancies and old weird stories of the transmigration of souls, etc., come rushing into one's mind, and carry one farcely away with them to far-off thoughts of many things. Altogether it is a scene of surpassing beauty—to be contemplated in order to be well-conceived or believed.

In the later autumnal season all this living environment is changed—just as in our gardens and orchards, our shrubberies and woodlands—yet still beautiful; nature under another aspect—

“Ever changing, ever new,  
When will the landscape tire the view?”

Now, around, at that same spot, instead of spring flowers we have autumn fruits, and though but small, and not belonging to the edible and useful [318] class, are, nevertheless, both striking and handsome as to colour; the charming and perennial (I was about to write everlasting) ferns continuing much the same.

First and foremost, at this season, to attract attention, are the hanging panicles of globular rich scarlet-coloured fruits of the twining and lofty climber *Rhipogonium scandens* (the “supplejack” of the colonists), their flowers in the spring season being much too small and neutral-coloured to be easily distinguished; the massy bunches of dark claret-coloured fruits, disposed in large spreading umbels, and half hidden under their still larger dark thick and quaint leaves, of the *Panax (P. arboreum)*, which small tree also abounds there, are now very conspicuous; the flowers too of this tall shrub were not prominently seen displayed in the spring, for a similar reason with that of the last; the bright orange-coloured berries of the shining-leaved *Drimys axillaris*, always growing together in tiny clusters of three, now show themselves here and there on its coal-black bark branches;<sup>818</sup> the numerous black woody capsules, like little nuts, of the three *Pittosporum* trees (generally soon splitting broadly open into three equal valves), are now shown to perfection among their light-coloured and semi-translucent leaves; and, when in full fruit, and bursting, the highly curious and showy berries (*axils*) of *Alectryon excelsum*, somewhat resembling a red raspberry with a big glossy black eye in its centre (its seed); while the evergreen flat mat plant below, overrunning the face of the ground, the dear little humble *Pratia angulata*, which so coyly displayed its numerous white flowers in the spring and all through the summer, now shows in their stead its peculiar crowned fleshy carmine-coloured fruits, which, though (like its flowers) modestly half-concealed, will be sure to be quickly detected and noticed.

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818 WC: Having mentioned the “coal-black bark” of this pretty tree, I would also give in a note an after-thought (which has occurred to me since I left the forests), viz., that I scarcely recollect ever having seen its trunk and branches bearing any lichens or mosses, where almost all trees and shrubs (not having deciduous bark) bear them thickly in countless profusion: and the same peculiarity, I think, obtains with another small tree possessing piquant bark, viz., *Piper excelsum*. If I am correct in my remark, what is such a bare state, or lack of living drapery, to be attributed to? Can it be owing to the extreme pungency of their barks?

But I must no longer detain you, but proceed to give the promised list of the ferns I saw in that small plot of ground, which, indeed, is the main subject of my paper, but which alone is, I fear, to some, the driest part of it, unless they happily happen to know the ferns whose names are herein given; some of them, however, I have formerly exhibited here at our ordinary meetings. [319]

#### *List.*

- Of *Cyathea*, 3 species—*dealbata*, *medullaris*, and *smithii*.
- “ *Dicksonia*, 3 species—*squarrosa*, *fibrosa* (? “*antarctica*,” H.B.K.), and *lanata*.
- “ *Hymenophyllum*, 10 species—*tunbridgense*, *bivalve*, *multifidum*, *javanicum*, *rarum*, *dilatatum*, *polyanthos* var. *sanguinolentum*, *demissum*, *scabrum*, and *flabellatum*.
- “ *Trichomanes*, 2 species—*reniforme* and *venosum*.
- “ *Davallia*, 1 species—*novaë-zealandiae*.
- “ *Adianium*, 1 species—*cunninghamii*.
- “ *Hypolepis*, 2 species—*tenuifolia*, and *distans*.
- “ *Pteris*, 4 species—*esculenta*, *tremula*, *scaberula*, and *incisa*.
- “ *Pelloea*, 1 species—*rotundifolia*.
- “ *Lomaria*, 4 species—*procera*, *fluviatilis*, *lanceolata*, and *discolor*.
- “ *Asplenium*, 4 species—*lucidum*, *falcatum*, *bulbiferum*, and *flaccidum*.
- “ *Aspidium*, 3 species—*vestitum*, *richardi*, and *coriaceum*.
- “ *Nephrodium*, 2 species—*decompositum*, and *hispidum*.
- “ *Polypodium*, 7 species—*grammitis*, *rugulosum*, *pennigerum*, *rupestre*, *tenellum*, *pustulatum*, and *billardieri*.
- “ *Leptopteris* (or *Todea*), 1 species—*hymenophylloides*.
- Total, 48 species of those published in the “Handbook.” Subsequently, 5 additional species (and one marked variety), all belonging to 4 of those same genera, have been discovered in that same small area of woodland by me, and described in the Trans. N.Z. Inst., vols. xi. and xii., viz.:—
- Cyathea polyneuron*.<sup>819</sup> [320]
- Dicksonia sparmanniana*.
- Hymenophyllum erecto-alatum*.
- “ *pusillum*.
- Trichomanes venustula*.

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819 WC: As I was writing, primarily, on the number of those ferns published in the “Handbook N.Z. Flora” which I had found in this one spot, I purposely omitted any reference to this tree-fern (*C. polyneuron*) when remarking on the lovely scenery of that place; this plant being a recent discovery. But this large and graceful fern-tree, with its ample drooping fronds, adds much to the living beauty of that landscape.

One of the prettiest fairy-like scenes I ever saw in our New Zealand woods, I have, on more than one occasion, witnessed, when reclining on the grass under the shade of one of these tree-ferns. It was noon, and the summer sun was high, and the view, on looking up through the interlacing overhanging foliage softly waving in the breeze, was truly enchanting, every vein and veinlet being highly translucent [hence, I had very nearly specifically named it *translucens*], and then the green of its arched fronds was of such a delicate hue, such a truly sparkling living green without a blemish. The finely-marked ever-changing traceries, and glints and gleams of vertical sun-light peering down through the many myriad veins in that living bower, on those occasions, were far beyond language! At such times one no longer wonders at our forefathers deeming those evergreen recesses and bowers to be the beloved haunts of wood nymphs and dryads, fays, fairies, and pixies—a belief also firmly and pleasingly held by the ancient New Zealander.

Making in all a gross total of 53 species of ferns found growing together in a very small plot of ground, being several more than the whole number of species of ferns found in the British Islands. And I have good reasons for believing that the following additional species may yet be found there also, as I know they are growing in profusion not far off, viz.,—*Lomaria nigra*, *Polypodium cunninghamii*, *Adiantum diaphanum*.

Of one thing respecting this beautiful and justly-prized order of plants I feel pretty certain, namely,—that there are several still unknown and undiscovered species yet to be found in New Zealand.<sup>820</sup> For I am yearly becoming more and more convinced of the correctness of my old belief<sup>821</sup> in the very circumscribed locality of not a few of our New Zealand plants; and, therefore, as the many still unexplored mountains and valleys, forests and plains of New Zealand come to be visited and known,—especially to men of science,—their many botanical novelties will become known also; though I much fear that cattle and fire, and introduced plants, will certainly destroy many. Such, indeed, has been the case here already in not a few places in Hawke's Bay.

## 1882 Descriptions of a few new indigenous Plants.

*Transactions of the New Zealand Institute* 15: 320-339.

[Read before the Hawke's Bay Philosophical Institute, 9th October, 1882.]

### Class I. DICOTYLEDONS.

#### ORDER XXII.<sup>822</sup> LEGUMINOSÆ.

##### Genus 1. Carmichælia, Br.

###### *Carmichælia corrugata*,<sup>823</sup> sp. nov.

An exceedingly small glabrous shrub, 2–3 inches high; branches leafless, 1–2 inches long, 1 line wide, mostly simple, rarely forked, flat, linear, obtuse, striated (almost ridged) and grooved longitudinally, slightly flexuous, [321] each branch bearing 4–5 alternate equidistant denticulations, each with a dry scarious ciliated bract. Flowers large, 3–4 lines long, purple with darker veins; standard pointleted; wings half the length of the standard; style bearded at tip; peduncle slender, 9–12 lines long, bibracteate, 1- (rarely 2-) flowered; bracts ciliated: pedicel 2 lines long, bracteolate at base; calyx large, broadly campanulate, more than 1 line wide, ciliate and hairy at margin, with 2 broad obtuse ciliated bracteoles adpressed at base; teeth very long: pod oblong-elliptic, 4–5 lines long (exclusive of beak), 1½–2

820 WC: As a further proof, I may here mention that I have this year detected four new species of ferns,—two of them being also tree-ferns,—in another unfrequented portion of these grand old forests, some ten miles south of this spot; of which a full description will be given in a future paper.

821 WC: See "Trans. N.Z. Institute," vol. i.,—Essay "On the Botany of the North Island of New Zealand," §§ 14, 22.

822 WC: The numbers here attached to both orders and genera are those of "The Handbook of the New Zealand Flora."

823 Stet.

lines broad, turgid, corrugated on one suture (mostly the lower) with 8–9 thick closely formed wrinkles; beak straight, 1½ lines long: seeds rotund, 5 in a pod.

Hab. Dry stony plains, Renwicktown, near Blenheim, South Island; Mr. F. Reader.

This species, in its dwarf size and general appearance, resembles *C. nana*, but it differs widely from that species in its flower and pod; it is also not so robust a plant. In its peculiarly thick and wrinkled pod (whence its specific name) it differs from all the species of *Carmichælia* known to me. Some of its short branches bear a flower from each notch or denticulation.

#### ORDER XXXIX. COMPOSITÆ.

##### Genus 1. Olearia, Mænch.

###### *Olearia marginata*,<sup>824</sup> sp. nov.

A robust shrub of low diffuse growth; branches, leaves, petioles, peduncles and heads of flowers thickly covered with tawny-yellowish wool: branchlets very stout, straight, smooth, and bare of leaves for 5–7 inches; leaves oblong, sub-obovate (sometimes roundish and narrow oblong), 2½–4½ inches long, 1½–2 inches broad, very stout, entire, very obtuse and emarginate, tapering towards base, subverticillate, 4–9 crowded together at ends of branchlets far apart, sometimes (but rarely) a single pair opposite; *margined* all round above the upper surface for ½ line wide with thick wool; *midrib* thick and flat towards base, and densely woolly for about 1 inch from petiole; veined; *veins* prominent, opposite and sub-opposite, diverging and parallel, apparent on both sides; *veinlets* anastomosing; the upper surface of old leaves glabrous, glossy, pale yellowish-green; *petioles* very stout, ¾–1½ inch long, channelled above, much dilated at base and sub-clasping; young leaves densely covered with coarse wool, at first their upper surface is ash-coloured, but with tawny-yellow under surface and margins: *peduncle* very stout, axillary and sub-terminal, 2½ inches long, 3 lines broad, of a uniform thickness throughout, compressed, channelled, soft flexible not woody, drooping, with 3–7 leafy half-clasping sessile and decurrent bracts below the head; *head* (*alabastrus* globular) 1–1½ inch broad, densely [322] imbricated in 7–8 rows; *outer scales* large, broad-oblong, obtuse, and with peduncle clothed with lighter reddish-yellow wool; *inner scales* 6–7 lines long, linear-lanceolate, acuminate, acute, longitudinally ribbed, glossy within; *receptacle* convex, 10 lines broad, deeply and coarsely pitted; *pits* square, the alveolar-like ridges even, a little higher at the angles.

Hab. Dry rocky hills, Renwicktown, near Blenheim, South Island. Mr. F. Reader.

This is in many respects a remarkable species, and is certainly pretty closely allied naturally to *O. insignis*, Hook., to which South Island species (unknown by sight to me) I was at first inclined to assign it, mainly through my not having specimens with fully opened flowers, and from their having been gathered in the known neighbouring localities of that plant. I had, however, several large specimens in full leaf, and with unopened heads of flowers nearly mature; and also an old head of the former year, but without a single floret remaining. On closely examining my specimens, I found them to differ in so many important

824 *Pachystegia insignis* (Hook.f.) Cheeseman.

points (*vide descrip., supra*) from *O. insignis*, that I could hesitate no longer over them.

Its very peculiar and curiously margined leaves, together with their being subverticillate and densely clothed with coarse matted, almost floccose, wool,—and the soft flexible nature of its stout compressed and bracteate peduncles (which softness and flexibility they still retain in their dried state),—are striking characters.

In some particulars this plant has affinity with some of the Australian species of this genus.

## ORDER XXVII. HALORAGEÆ.

### Genus 3. *Gunnera*, Linn.

#### *Gunnera strigosa*,<sup>825</sup> sp. nov.

*Plant* low creeping, very diffuse, rooting at ends of runners and forming nodes, 2–6 inches apart; *branches* terete, hispid, coloured brown. *Leaves* upright and spreading, radical from nodes, 5–14 arising from a node, darkish-green, rough with minute whitish points,  $\frac{3}{4}$  inch diameter, cordate, auricled, 5-nerved, which are each again forked at the tips with veinlets, anastomosing, nerves red-brown and very prominent below, 5–7-lobed, lobes crenate, mucronate; petioles  $\frac{1}{2}$ – $1\frac{1}{4}$  inch long, somewhat stout, channelled; strigose with flat adpressed linear white hairs, which are sub-acute and apiculate, and scattered on both sides, particularly on midrib and nerves petioles and runners, which are sometimes quite hoary with them. *Flowers* monoecious on long slender scapes (or peduncles), 3–4 inches long, 2–3 times longer than the leaves, 2–5 scapes to a plant or single node. *Male flowers* above in a simple spike sometimes occupying  $\frac{5}{6}$  of length of scape, produced alternately and distant; *petals*, 0; *stamens*, 2, sessile [323] or nearly so above, but pedicelled and diandrous below, the pedicels of these few lower ones 1–2 lines long, a little longer than the filaments, with an ovate-acuminate concave bract at their base, and a pair of minute bracteoles at the junction of the filaments with the pedicel; the upper ones also each having three small bracts at its base, one outer and two inner; bracts and bracteoles sparsely ciliated; anthers broadly cordate, apiculate, thick, dark-coloured. *Female flowers* produced below at base of scape, and for a short distance up it, those at and near the base subpanicle and subcapitate on short branchlets each containing 3–5 flowers on very short pedicels, crowded; those few above on scape sessile or nearly so and distant, each flower bracteolate at base much as in the male flowers; ovaries, ovate, glabrous, their 2 calycine lobes bearing a few white strigose hairs; *styles* 2, very long, three times or more the length of ovary, subulate, spreading, densely hairy (pubescent-hirsute), hairs light brown, with some of the flat white strigose hairs scattered among them. *Fruit*, globular, about 1 line in diameter, glabrous, bright-red, bearing the two persistent calycine lobes of the ovary, which are divergent and black; *drupes* closely compacted into a head as big as a small cherry.

*Hab.* On clay banks in forest between Norsewood and Danneverke, Hawke's Bay district, North Island, flowering in November, 1881–1882: W.C.

*Obs. I.*—The broad white and flat hairs plentifully scattered over this plant attracts at first sight the eye of the observer; under a microscope they present a peculiar vermicular appearance. The pair of minute bracteoles at the base of the pedicelled filaments of the lower male flowers,—and also within the larger outer bract of the upper and sessile ones,—seem to supply the place of calyx, unless we consider the outer single and larger bract as such, and then those inner and smaller ones as petals. In two or three instances I have noticed a still larger single bracteole (resembling the outer bract) on one of the pedicelled stamens, immediately below the anther.

*Obs. II.*—As a species this plant has pretty close affinity with *G. monoica*, Raoul; but, although monoecious like that species, is quite distinct; this is very clearly shown by comparison with his own full description with plate containing dissections, as given in his *Choix de Plantes*, p. 13, tab. 8. It is also allied to another New Zealand species, *G. prorepens*; to the only Tasmanian species, *G. cordifolia*; and to the Fuegian species, *G. magellanica*.

## ORDER XXXVI. LORANTHACEÆ

### Genus 1. *Loranthus*, Linn.

#### *Loranthus punctatus*,<sup>826</sup> sp. nov.

A large bushy glabrous *shrub*, main stems 1– $1\frac{1}{2}$  inch in diameter. *Branches* terete, with light-grey bark filled with fine longitudinal cracks; [324] young branchlets semi-compressed, always dark red, very minutely roughish but not villous. *Leaves* opposite, decussate, distant, 6–8 lines apart, 1– $1\frac{1}{2}$  inch long, 6–8 lines broad, petiolate, broadly-lanceolate elliptic and subrhomboidal, obtuse, very coriaceous; colour a lively light green, both surfaces covered with very fine pale spots, midrib and veins obscure, primary veins opposite, veinlets reticulated, margins rough and coloured red with minute tubercles. *Flowers* light-vermillion red, single, suberect, expanding freely,  $1\frac{1}{4}$  inch long, axillary on short stout peduncles. *Calyx-tube* conical, 2 lines long, limb very shallow, with 4 small teeth at the angles of the corolla. *Corolla* 4-angled at base and throughout two-thirds of its length, up to the insertion of the filaments, broadest at base, gradually contracted upwards, terete and swollen above. *Petals* somewhat linear, free, semitransparent, 2 lines broad at base, constricted at one-third of length from apex and there 1 line broad, obtuse and subspatulate at top, and grooved within for the anther. *Filaments* stout, flat. *Anthers* long, linear. *Style* very long, longer than anthers, straight. *Sigma* dark red, globular, slightly cleft, and finely papillose.

*Hab.* Parasitical on *Fagus solandri* (and other trees), Forty-mile Bush, near Norsewood, Hawke's Bay district, North Island; flowering in November, 1876–1882: W.C.

*Obs. I.*—This is a fine bushy species, very full of branches, leaves, and flowers. It extends 5–6 feet each way in front from the tree in which it grows, and sometimes runs 9–10 feet in length, clasping the tree right round in several places, and thus appearing as if it were composed of two or three separate plants. Its leaves are usually disfigured with small round and raised hard swellings, which lumps appear on both sides, always punctured on the one side; sometimes 2–6–8 on a single leaf, the work of some insect.

825 *Gunnera x strigosa* Col.

826 *Peraxilla tetrapetala* Tiegh.

*Obs. II.*—This plant has been long known to me, but, I fear, too often confounded with *L. tetrapetalus* (from my not having before seen it in its proper season of flowering, and through lack of close examination), to which species it is nearly allied, and in many respects closely resembles. Dissection, however, reveals its important differential characters, as given above.

### ORDER LIII. SCROPHULARINEÆ.

#### Genus 7. *Veronica*, Linn.

##### *Veronica trisepala*,<sup>827</sup> sp. nov.

*Shrub* small, glabrous, 2–3 feet high, with habit of *V. buxifolia*. *Branchlets* pubescent, transversely and regularly scarred 2 lines apart; hairs very thick and short, reddish, patent; bark light-reddish-brown. *Leaves* opposite, decussate, 4–8 lines long, 1½ lines broad, glabrous, not shining, oblong-lanceolate [325] acute, sub-dimidiata, sub-falcate, entire with 2–3 cuts or slight notches on each side near apex, thickish, opaque, under a lens thickly studded with very minute white spots on the under surface, somewhat concave, veins obscure, midrib strong, not keeled, petiolate, petioles 1 line long, slender. *Flowers*, sub-terminal and sub-capitate in corymbs much longer than the leaves, on 2–6 axillary peduncles ½ inch long, peduncles and pedicels pubescent, each peduncle or rhachis bearing 6–8 branched peduncles, each branched peduncle with 8–10 pedicels 1 line long, all bracteolate, bracteoles light-green, sessile, rather large, ovate-acuminate, obtuse and slightly ciliate. *Sepals* 3, about 1 line long, rather longer than tube, glabrous, very obtuse, margined, ciliate, upper sepal large and bifid. *Corolla* white with a faint tinge of light-blue, 4-lobed, spreading, 2½ lines long, 3 lines broad, lobes ovate, obtuse, tube under 1 line long. *Stamens*, *filaments*, and *style* equal, exserted, longer than corolla. *Stigma* simple. *Anthers* rather large, light-blue. *Capsule* (immature) 2 lines long, more than twice as long as the calyx, broadly elliptic, acute, flattish, glabrous, style persistent, long.

*Hab.* On the north end of Te Kaweka mountain range, near Napier. Discovered by Mr. A. Hamilton, 1881.

*Obs.*—This is another elegant shrubby species of this extensive genus, so well represented in New Zealand, and one that is so plainly distinct as not to be easily confounded with any other of our known and published species; its nearest relation is, I think, *V. diosmæfolia*, a tall slender northern species of widely different habit, and characters. I have little doubt of this plant becoming, also, a favourite in gardens.

### Class II. MONOCOTYLEDONS.

#### ORDER I. ORCHIDEÆ.

##### Genus 1. *Earina*, Lindley.

##### *Earina quadrilobata*,<sup>828</sup> sp. nov.

*Plant*, small, low, of densely compact growth. *Flowering stems* usually short and sometimes bare of leaves, erect and pendulous, 6–10 in. long, compressed, slender, woody, brittle, of a light brownish-white colour, irregularly blotched

and spotted with black. *Leaves* sub-erect, narrow, linear, 2–3 in. long, 1½ line wide at broadest part near base, flat, acuminate, acute, alternate, distant, sessile, clasping, glabrous, sub-coriaceous, dark green, entire, margined with a white line which with the midrib are semi-translucent, peculiarly embossed or sub-keeled with a longitudinal impression (*in alto*) 2 lines long on midrib lower side, ¼ in. from apex. *Flowers* distant, sub-distichous, nodding, in simple 5–6-flowered racemes or loose panicles, each scape bearing 3–4 slender and distant racemes, each flower bracteolate, bracteoles clasping, striated, obtuse with a point, or broadly sub-rhomboidal [326] with 3 teeth or points, the middle one being the largest and most produced,<sup>829</sup> usually an additional abortive flower arising from the uppermost bracteole; pedicels very short and slender included in the bracteoles; peduncle and sub-peduncles, 1–2 in. long, with 3 imbricated scarious bracts at base. *Sepals* and *petals* whitish with a primrose tint of yellow, membranaceous, nearly equal in length, 2 lines long; *sepals* erect obtuse, central one ovate, concave, margins entire, lateral obovate, margins irregularly and slightly jagged; *petals* a little larger than sepals, ovate-acuminate, obtuse, apiculate, sub-pellucid, strongly 1-nerved, slightly notched at margin; *lip*, sub-membranaceous, undulating and crisped, deflexed, 2 lines long, oblong-deltoid, 4-lobed, lobes sub-conniving, rotund, margins even, apices erose, sinuses broad, apex of lip deeply emarginate with a small central triangular recurved point or mucro (*emarginatus cum acumine*); *colour*, pure darkish-yellow (apricot colour), with a small blotch of purple-brown at base. *Capsule*, oblong, obtuse, 4 lines long, 1½ line broad, broadly ribbed and striated, glabrous, purple-brown; perianth persistent.

*Hab.* Among and on rocky boulders of conglomerate, immediate base of the Ruahine mountain range, east side, plentifully, but not in flower, 1845, where it grew in dense patches like grass; also, on open stony acclivities in sub-alpine forests, and epiphytical on trees, near Norsewood, district of Hawke's Bay, 1878–1881; flowering in November: W.C. Heights of Mount Kaweka, near Napier, 1882: Mr. A. Hamilton.

A species having close affinity with *E. mucronata*, but it is a much smaller and more graceful plant, with fewer and differently formed flowers.

##### Genus 2. *Dendrobium*, Linn.

##### *Dendrobium lessonii*,<sup>830</sup> sp. nov.

*Plant* epiphytal and terrestrial; an erect and pendulous, diffuse slender shrub, often much-branched; *branches* 6 inches to 4 feet long, wiry, terete, hard, and brittle; main stems ½ of an inch in diameter; colour of stems and branches, some darkish-umber-brown, and some bright yellow, glossy and horny, ringed with dark scar-like joints, ½–1 inch apart, under the dry scarious sheathing leaf-bracts, which long remain. *Leaves*, alternate, ¾–1¼ inch long, 1–2 lines broad, 3–6 lines apart, sub-linear-lanceolate, or sub-ovate-acuminate, broadest near base, sessile, spreading, often falcate and twisted, coriaceous, semi-rigid, smooth not glossy, pale or yellowish green, margins entire, obscurely

829 WC: This, however, is best seen on the maturation of the fruit, as the bracteole enlarges with it, and assumes a sub-calycline a cap-shaped form.

830 *Winika cunninghamii* (Lindl.) M.A.Clem., D.L.Jones et Molloy.

827 *Hebe diosmifolia* (A.Cunn.) Andersen.

828 *Earina mucronata* Lindl.

10-nerved, midrib sunk and obsolete, somewhat concave, suddenly slightly thickened on the under side 1–3 lines from apex, with a slight corresponding notch in each side, tip obtuse, vaginant, sheaths [327] truncate, longitudinally and regularly striated, and finely corrugated transversely. *Flowers*, white, membranaceous, few, scattered, usually 2 (sometimes only 1, very rarely 3) in a short loose raceme on a stoutish erect peduncle shorter than the leaves, always bursting at a right angle from the internode in the branchlet, and generally alternating with the leaves, never axillary nor opposite to a leaf; peduncle glabrous, shining, with 2–3 rather distant sheathing bracts, truncate and obtuse; pedicels, 2–3 lines long, bracteoles sheathing, acute; *perianth* nearly 1 inch in diameter, open, expanding, segments of equal lengths; *sepals*, ovate-acuminate, 5-nerved, margins entire, upper one the smallest, the 2 lateral ones with a very small round spur at their base; *petals* recurved, oblong-ovate, obtuse, with a minute point, margins also entire; *labellum* 3-lobed, the 2 lateral lobes small, oblong, obtuse, conniving, margins finely notched; middle lobe large, longer than broad, veined, sub-round (or sub-panduriform or broadly obovate), apiculate, margin sub-crenulate with a slight notch on each side, sides conniving, and 4 longitudinal elevated and shining green (or yellow-green), lamellæ near the base, which are bluntly toothed or crested; *column* slightly winged near apex, light green; *pollen masses* yellow. *Ovary*, 2–3 lines long, green, shining, obscurely striate.

*Hab.* In forests, Norsewood, Hawke's Bay district, North Island, high up in the forks of pine trees (*Podocarpus spicata*), and sometimes on the ground in dry stony hills under *Fagus* trees, flowering in November; 1879–1882; also among rocks near the sea at Cape Turakirae (the south head of Palliser Bay), 1845–6: W.C.

*Obs. I.*—The main branches of this plant are often very regular and spread out flat, bearing a bi-tri-pinnate frond-like appearance, from the side branchlets of equal length springing at about equal distances from the main stem; a few leaves on stout and strong young shoots are 1½ inch long and 2¼ lines broad; the branchlets and peduncles shoot alike erumpent at right-angles with the stem. Although I have (rarely) seen a raceme bearing 3 flower-buds, I have never seen one with all three open, the upper one seemed to be abortive; which is also often the case when there are but 2. In some flowers (on the same plant) the 2 lateral lobes and the extreme base of the middle lobe of the labellum, the throat and column, are dark pink; in a few others the same parts are slightly speckled with pink.

*Obs. II.*—I have long known this plant, and, though I early obtained specimens with a few unopened immature flowers from the rocks at Palliser Bay in 1845, and subsequently assiduously sought for good flowering specimens, I never detected any such until 1881, when my long previous suspicions of its proving to be distinct from the northern form (*D. cunninghamii*) were fully confirmed—I having well known and very often admired [328] and gathered that elegant species in its native forests, where it is often to be met with. There is much however at first sight, and with only immature flowering specimens, to confound this species with that plant; indeed, it is only by careful examination of several fresh specimens, dissection and comparison, that their specific differences are perceived, which are chiefly in the labellum, its form and the number and size of its lamellæ (which in *D. cunninghamii* are always 5); the colour, too, of its flowers is widely different,

these are also smaller and much fewer in number, usually only 2 on a peduncle, and never assume the panicle form; and also its dwarf terrestrial habit.

*Obs. III.*—I believe this plant to be identical with the *D. biflorum* of A. Richard, which was originally discovered by Lesson, the naturalist of the French expedition under D'Urville, in Tasman's Bay, Cook Straits, in 1827, and published by Lesson and Richard, with a very full description and a folio plate, in 1832; and, therefore, I have great pleasure in naming it after its original discoverer. That New Zealand species, however, was confounded by them with *D. biflorum* of Swartz, (then a very little known species, discovered by G. Forster when with Captain Cook in the Society Islands), which species, though very nearly allied, bears only two lamellæ on its labellum. On R. Cunningham re-discovering<sup>831</sup> the Northern New Zealand plant, (which now bears his name,) it was described by Lindley with a plate,<sup>832</sup> as being quite distinct from the *D. biflorum* of Swartz. Lindley, however, believed Richard's New Zealand South Island plant to be identical with Cunningham's North Island one, *D. cunninghamii*. And I think that Sir J.D. Hooker, subsequently adopting Dr. Lindley's opinion, also believed Richard's South Island plant to be the same as our Northern one; which it certainly closely resembles at first sight in many particulars, although Richard's life-size plate with dissections shows a difference, particularly in its 4-crested labellum.

## Genus 12. *Pterostylis*, Br.

### *Pterostylis emarginata*,<sup>833</sup> sp. nov.

*Stem* stout (nearly as thick as a goose-quill), erect, reddish (light brickred), 10–16 in. high, 3–4 scarious bracts below, leafy in the upper half; *leaves* 6 in number, membranous, glabrous, shining, slightly spreading, alternate, 5–7 in. long, ½ in. broad, linear-acuminate, obscurely 2-nerved longitudinally, a little shorter than the flower, sessile, vaginant, very stoutly keeled, midrib thick 1 line wide, reddish. *Flower* membranaceous, striped white and green, rather large, 2–2¼ in. long including tails of sepals but excluding ovary, erect, lower lip of perianth ascending, ½ in. broad below [329] furcation, ending in two long and fine red tails 1¼ in. long, dorsal sepal with a very long red caudate apex much longer than the petals, and but a little shorter than those of the lower lip; *petals* somewhat falcate with a sharply produced abrupt angle on the upper edge, shortly acuminate and red-tipped, but without tails; *labellum* included, or but slightly exserted, oblong, emarginate, deflexed, 7 lines long, 3 lines broad, glabrous, membranous below and thickest at tip, striped green and white longitudinally with a dark red central line running towards tip, and there ending in a thick red callus not extending to margin; *appendix* more than 2 lines long, curved upwards, flat, bifid, and rather largely fimbriate (not villous), fimbriae penicillate at tips; *column* taller than lip, wings large, each produced upwards in a long erect subulate point at the front angle, and downwards in an oblong auricle finely ciliated on the inner margins, white with a green transverse band. *Ovary* large, 1–1¼ in. long, sub-cylindrical, green, strongly 6-ribbed. *Tuber* large, white, rotund but much pitted and irregular, nearly an inch in diameter, resembling a very

831 WC: It is said to have been originally discovered by Banks and Solander in 1769.

832 WC: Botanical Register, tab. 1756.

833 Currently included in *Pterostylis banksii* A.Cunn.

small and young round potato; rootlets several and stout, some proceeding from the stem 2 in. above the base.

*Hab.* In low forests, banks of streams descending from the east flank of Te Ruahine Mountain Range, 1847–1852; W.C.: also, in the forest at Te Aute, 1882; *Mr. C. P. Winkelmann*: and also in the forests at Hampden, 1882; *Mr. S. W. Hardy*: all localities in the Hawke's Bay district, North Island.

*Obs. I.*—A truly fine species having affinity with *Pt. banksii* (and long overlooked as belonging to it), but differing from that species in several important particulars—such as “*Pt. banksii*—leaves numerous, produced much beyond the flowers, narrow, grassy; lip linear narrow; sepals and petals produced into very long filiform tails”—FLORA N.Z.: and “*labelli lamina obtusa*”—BROWN, LINDLEY, CUNNINGHAM, etc., etc.

*Obs. II.*—The whole of this truly natural genus, as represented in New Zealand, wants skilful revision from living specimens, or from good floral specimens preserved in spirits; particularly with reference to the formation, etc., of the delicate wings of the column, which vary in the different species; and which, while well worked up by Sir J.D. Hooker in his *Flora Tasmaniæ* (and subsequently by Bentham in his *Flora Australiensis*), seems to have been overlooked in both the *Flora N.Z.*, and the more modern “Handbook.”

## ORDER II. IRIDEÆ.

### Genus 1. *Libertia*, Sprengel.

#### *Libertia orbicularis*,<sup>834</sup> sp. nov.

*Rhizome* and leafy base of *stem* very short; *leaves* almost radical, suberect, membranaceous somewhat sub-rigid in age, narrow linear-acuminate, [330] 10–15 inches long,  $\frac{1}{4}$  inch broad, margined white, many-nerved, finely serrulate at tips. *Scape*, stout, erect, 12–22 inches long,  $1\frac{1}{2}$  line in diameter, closely marked throughout (together with panicle and bases of ovaries) with very fine and small longitudinal red lines, bracteated with 2 foliaceous bracts nearly equidistant, lowest bract 5–7 inches long, margins of bracts finely serrulated at tips. *Panicle*, loose, 5 inches long, bearing 12–18 flowers, disposed in distant sub-corymbose sub-panicles of 2–5 flowers, bracts ovate acuminate; *pedicels*  $\frac{1}{2}$  inch long, each with a small scarious bracteole at base. *Perianth*,  $\frac{3}{4}$  inch diameter; *petals* white orbicular, 4 lines diameter, retuse at apex, unguiculate with a very narrow unguis, spreading, slightly concave; sepals 2 lines long, elliptic, obtuse, tufted at apex with a few small spreading hairs, concave, coloured green and pink on the outside; *stamens* stout, connate with styles about 1 line from the base; *anthers*, oblong-ovate, obtuse, yellow; *styles* flat, slightly channelled, spreading; *stigmas*, minutely penicillate. *Ovary* (immature) 5 lines long, triquetrous, broadly obovate, truncate at apex. *Seeds* (mature) globular, very slightly and minutely pitted.

*Hab.* Dry sides of stony hills, margins of forests, between Norsewood and Danneverke, Hawke's Bay district, North Island; flowering in November; W.C.: and, at Pohue, high hills near Petane, Napier; *Mr. A. Hamilton*.

A species having pretty close affinity with *L. ixoides* and *L. grandiflora*, but differing in its truly orbicular petals, tufted sepals, pencilled stigmas, globular seeds, and finely serrulate bracts and leaves; it also has affinity with the Australian species *L. paniculata*.

## ORDER VII. LILIACEÆ.

### Genus 3. *Cordyline*, Comm.

#### *Cordyline diffusa*,<sup>835</sup> sp. nov.

A large tufted diffuse *herb*. Leaves suberect and drooping, 4 feet 3 inches–4 feet 6 inches long (including petiole),  $2\frac{1}{2}$  inches broad, lanceolate, acute, margins entire, flat or slightly revolute, striated, many-nerved (40 each side of midribs), veins oblique, subcoriaceous, glabrous, midrib very stout, white, wide and flat on the upper surface, green round and very prominent on the lower, and vanishing several inches below apex, when young membranaceous and of a pleasing green, but yellowish-green when old and much torn at the tips; petiole 8 inches long from base of contraction of the blade, very stout and clasping. *Scape* very stout  $2\frac{1}{2}$  inches in circumference, somewhat triquetrous at base, angular and channelled above, smooth. *Panicle* (several from same plant) suberect and drooping, 4 feet long, including scape which is 6–7 inches long to lowest branchlet), very loose lax and diffuse, broadly ovate in outline, composed of several scattered and alternate subpanicles, 18–20 inches long, [331] and 8, 6, 4 inches apart, each with a large foliaceous bract at its base, the lowermost bract being 2 feet 6 inches long. *Flowers* (unexpanded) on very short pedicels almost sessile, scattered on the upper parts of the simple and distant filiform and subflaccid branchlets, which are 3–7 inches long, (no flowers on their lower portions save one, sometimes two, in the axil of the branchlet), crowded towards the tips in spike form, apparently small, three lines long, white tinged with blue on the outside of perianth at tips, segments nearly equal, linear-oblong, concave, obtuse and incurved at apices. *Style* one line long, stoutish, somewhat channelled towards apex; stigma trifid, spreading, each tip slightly bifid and papillose. *Filaments* stout, short. *Anthers* yellow, long linear obtuse. Three scarious bracteoles at base of pedicel, the lowermost two lines long, nearly the length of the unexpanded flower, deltoid-acuminate, strongly one-nerved, the intermediate one small and often nerveless, and the upper one also small and one-nerved, nerves brown; sometimes the middle and upper bracteoles are united, and then they form one broad bicuspidate bracteole. *Ovary* (immature) glabrous, subrotund, slightly angled, many-seeded.

*Hab.* On cliffy exposed edges, dry hilly forests between Norsewood and Danneverke, Hawke's Bay district, North Island, 1881–1882; flowering in November: W.C.

*Obs.*—This plant grows in large clumps, much like the larger terrestrial *Astelia* (e.g. *A. fragrans*, *mihi*, *infra*), and the narrow-leaved species of *Phormium* (*P. colensoi*). It seems to have close affinity with *C. banksii*, (originally detected by me in the neighbouring forests), but is not arboreous like that species; as well as with *C. pumilio*, in the free disposition of its panicle and its herbaceous habit.

834 *Libertia grandiflora* (R.Br.) Sweet.

835 *Cordyline banksii* Hook.f.

*Cordyline sturmii*,<sup>836</sup> sp. nov.

Plant arboreous, 14–15 feet high, diameter of trunk at base 8 inches; *bark*—of lower trunk brownish and slightly rough and cracked,—of branches grey, smoothish, with darker regular markings from scars of fallen leaves, but not rough; branched at top in 3 long erect branches. *Leaves* very closely set and numerous, squarrose, broadly-lanceolate, acute, sessile, 2 feet 6 inches long, 4 inches broad at the middle, sub-membranaceous, tender, easily broken and torn by the winds, etc., margins entire, flat, slightly sub-revolute, apices of young leaves tightly rolled upwards (in-curved), wholly green on both surfaces, obliquely closely and regularly nerved, midrib 0, nerved over the place of midrib on the upper surface by fine longitudinal nerves, finely sub-striate, the blade decurrent gradually to the base, with no apparent petiole, and there 1 inch wide at the narrowest, and 1½ inch at the extreme base, which is dilated, thick, half-clasping and sub-articulated. *Flowers* in a sub-terminal compact thyrsoid panicle, 20 inches long, 9 inches [332] broad, oblong, obtuse; rhachis and main branchlets stout, angled and channelled, glabrous, dark green, length of flowering stem below the flowers 5 inches, and 2½ inches in circumference, triquetrous, flat on top, sub-succulent not woody; *sub-panicles* rather distant on rhachis, not crowded, erect, alternate, disposed in a tristichous manner, each 6–9 inches long, axial branchlet always much the longest; *bracts* at bases of sub-panicles foliaceous, lowest 6½ inches long, 1 inch broad at the middle, ovate-acuminate, acute; *bracteoles* within bract at base of branchlet, short, broadly deltoid, acute, extending and sub-clasping around the base, closely including the 2–3 flowers there. *Flowers* numerous throughout on all the branches but not crowded, generally 3 together at lowest angle of junction of branchlet, 1 on each side and 1 above. *Flowers, short pedicels, and very small floral bracteoles* wholly white; *pedicels* bi-bracteolate; *bracteoles* very small, nerveless, less than a line long, the lower one deltoid acute, the upper somewhat cup-shaped and surrounding the pedicel on three sides, the margin irregular mostly with two small teeth or points. *Perianth* with a very slight greenish tinge on the outside before unfolding, 5 lines diameter, stellate; *segments* nearly equal, thickish, linear, obtuse, scarcely 2 lines long; *sepal*s recurved; *anthers* linear, obtuse, small; *filaments* stout flat, linear, acute; *style* stoutish, cylindrical, slightly flexuous; *stigma* trifid; flowers fragrant. *Fruit* (ripe, of last year) reddish, glabrous, shining, bearing the persistent remains of the perianth, sub-globose, depressed at top, tri-lobed, 3 lines in diameter, each cell containing several (4–6) black, glossy, sub-reniform, sharply-angled and closely-packed seeds.

*Hab.* Forests, in the mountainous interior, near Lake Waikare, North Island.

*Obs.*—This fine new species of *Cordyline*, I may say, I have long known; and I ought to have described and published it before, having had ample living specimens, both flowering and fruiting, at command, in the nurseries of Mr. Sturm, at Clive, who, many years ago, brought the seeds of it from the mountain forests, and from them raised the plants in his gardens, where they have attained to a great height, if not to their full size. This description is mainly drawn up from plants of his own raising, aided by a young one of a few years old in my own garden, for the apices, etc., of the leaves, which in the larger plants are very rarely unbroken and torn. It is very distinct from any of our described New

Zealand species of this genus, also from all other (known) published ones. A flowering panicle presents a fine sight, from the thick, solid, firm, and waxy appearance of its numerous white flowers, pedicels, and floral bracts, heightened by the dark-green back-ground of their stout glabrous branches. The leaves of this plant are very much broader and thinner than those of *C. australis*, and are, also, not [333] so erect above and drooping below, and present a much more squarrose and bulky appearance. Mr. Sturm very kindly brought me a large flowering branch from his tree, that I might have good specimens for examination and drying; I regret, however, that while it has some hundreds of leaves (a perfect crown) there is not one sound unbroken leaf among them! The stem portion of this branch brought to me is 2 feet long, 5 inches in circumference at the lower end, and 6 inches a little below the leaves; it is perfectly cylindrical and semi-succulent (something like a large and long cabbage stump), not woody, and has a smooth mottled ring, as described above; this branch was taken from the trunk lower down. Mr. Sturm further informs me that the said parent tree has annually for several years past produced one erect flowering panicle similar to this one (*supra*), only a little larger, and that the tree is now giving out several young branches (shoots) from above under its leaves, and also shoots from its trunk in various places; much after the manner of the other arboreous species of our New Zealand *Cordylines*.

I have very great pleasure in naming this plant after Mr. F. W.C. Sturm, its discoverer and fortunate raiser, who honourably deserves it; Mr. Sturm is a well-known botanist and very early energetic settler here on the East Coast and at Hawke's Bay.

## ORDER VII. LILIACEÆ.

Genus 5. *Astelia*, Banks and Solander.*Astelia fragrans*,<sup>837</sup> sp. nov.

*Plant* terrestrial, large, robust, bushy, spreading, suberect, and slightly drooping at tops. *Leaves* linear-lanceolate, very acuminate, 6½ feet long, 2 inches broad about the middle, margins flat, entire, keeled, thickish (particularly at the main nerves), subrigid, glabrous on both surfaces, with a slight adpressed white scurf below, and some long loose white hairs at the bases, many-nerved, with 2 strong and thick equidistant red nerves or ribs more than 1 line wide running throughout, very stout, and largely prominent on both sides; colour light-green (and in age yellow-green), soon splitting and decaying at tips. *Flowers* in a panicle, dark green shining with purple segments, very fragrant, completely hidden among the leaves. *MALE: scape* 2 feet long, very stout, triquetrous, 3 inches in circumference, erect, 9 inches to first branch of panicle, shaggy at base, with loose white hairs, ¾ inch long, flat, membranaceous and longitudinally veined, clothed above with adpressed matted hairs; *panicle* stout, open, subpanicles alternate, lowest with 7 branchlets, next 6, next 5, and so on, everywhere dotted with minute purple dots, which extend to pedicels and perianth. *Flowers* numerous, 6–7 lines diameter; on short stout bracteolate pedicels, scattered on angled and loosely-shaggy racemose spikes, 3–7 inches long; *bracteoles* [334] on the tops of the spikes (in both *m.* and *f.*), much longer than their flowers; *lobes of perianth* closely reflexed to pedicel, large, ovate-

836 Uncertain: possibly a *Cordyline* hybrid.

837 Stet.

oblong, obtuse,  $2\frac{1}{2}$  lines long, purple, finely striate, glabrous, slightly scurfy on the out-side; *filaments* robust, 2 lines long, stellate, patent, white, succulent; *anthers* oblong, dark brown; *bracts* of subpanicles very large and spathe-like, ovate-acuminate, the lowermost 40 inches long, and 3 inches wide at base, largely ribbed and veined as in leaves, also thickly coloured with minute purple dots, making them to appear wholly purple at their bases, and closely clothed below on both sides with soft adpressed white hairs; *panicle and scape weighing 17 ounces*. FEMALE: *scape* 15 inches long, erect and stout as in male, 6 inches to lowermost subpanicle, which, however, contains but 6 branchlets, and so on decreasingly with the others; *panicle* shorter and more compact than in male (more thyrsse-like), branchlets much shorter, subcompressed and less villous, almost quite glabrous, shining and wearing a subpapillose appearance, whole colour, including ovaries, a very dark green; *segments of perianth* very small, deltoid, obtuse, recurved, purple and striate as in male, the three outer larger than the three inner and imbricating at bases; *ovary* subrotund,  $\frac{1}{3}$  exserted, shining, slightly angular; *style* none; *stigmas* 3, large, distinct, orbicular, sessile, papillose; *barren anthers* very small, only just appearing at bases of segments; *bracteoles* purple and longer than in male; the whole female *scape* weighs 14 ounces, with ovaries immature.

*Hab.* In low wet boggy grounds, and on dry shady hillsides, in open parts of the forest near Norsewood, Hawke's Bay district, North Island, 1876–1882; flowering October and November: W.C.

*Obs.*—This fine plant has been long known to me in its general appearance, having often seen it; but never until this year did I obtain good flowering specimens. The flowers, however, are completely concealed within its thickly set and long bushy leaves; in this respect differing from most of the other known species of this genus. Their fragrant honey-like smell (of both *m.* and *f.*) is very pleasing and lasting, and no doubt serves to draw the smaller insects to them.

#### ORDER XI. CYPERACEÆ.

##### Genus 13. *Uncinia*, Persoon.

###### *Uncinia horizontalis*,<sup>838</sup> sp. nov.

*Culms* 10–12 inches long, slender, smooth, triquetrous. *Leaves* numerous shorter than the culms, 9–10 inches long, 1 line broad, flat, margins scabrid, tips obtuse. *Spikelets* 1– $1\frac{1}{2}$  inch long, 2 lines broad, tristichous, upper 3–4 lines male; *bract*, 4–7 inches long, foliaceous, very narrow (almost filiform), canaliculated and nerved, margins scabrid, with very fine longitudinal scaberulous rows running below on the nerves. *Glumes* 8 lines long, [335] lax, ovate-acuminate, keeled, with a green longitudinal stripe down the centre (afterwards brown), slightly transversely wrinkled, margins white chaffy. *Utricle* smooth, as long as the glume, ovate-acuminate, 3-nerved, swollen in the middle; *bristle*, excurved, twice as long as the glume, light-brown.

*Hab.* In *Fagus* woods, Norsewood, Hawke's Bay district, North Island; flowering early in November, 1881: W.C.

*Obs.*—Plant wholly light green and very cæspitose, but spreading out flat in a circle, with the culms beyond the leaves.

###### *Uncinia alopecuroides*,<sup>839</sup> sp. nov.

*Plant*, 2 feet 6 inches high, much branched at base, ascending, diffuse. *Culms*, 11–12 inches high, smooth, erect, leafy throughout with 4–5 leaves, trigonous (or multangular) with 3 raised longitudinal lines on each face. *Leaves* much longer than the culms, 1 foot 9 inches—2 feet long, 2 lines wide at widest part near base, linear, grass-like, flat, flaccid, very acuminate, dark green, nerved, striated, keeled, serrulate at margins, and finely and regularly scabrid on lines of nerves on both surfaces and on the midrib below, channelled towards tips, which are somewhat dilated and obtuse and thickly serrulated, at the base is a small broad sub-rotund bifid *ligula*; the short leaf-like bracts at the bases of the stems and the sheathing bases of the leaves are dark brown and regularly striated, the *striæ* broad and flat. *Spikelet* long, slender, terete, acuminate,  $5\frac{1}{2}$  inches long, the upper male portion  $1\frac{3}{4}$  inch long, closely imbricated but less so at the base; *bract* of various lengths 1– $5\frac{1}{2}$  inches long, filiform, obtuse, 1-nerved, scabrid at edges and at the obtuse tip. *Glumes* narrow-linear-ovate,  $2\frac{1}{2}$  lines long, nerved, pale with a green central stripe, somewhat glossy, margins chaffy, tip membranaceous obtuse, white, with two brown crescent-like transverse bars, or bands, just below it. *Utricle* slender, lanceolate-acuminate, length of glume, pale, smooth; *bristle* longer than utricle, slender, pale, excurved. *Stamens* and *anthers* very long, linear. *Styles* spreading very rough (setose-like).

*Hab.* Forests, with the preceding species: W.C.

*Obs.*—From the form of its long spikelet, somewhat resembling that of *Alopecurus agrestis*, has been derived its specific name.

##### Genus 14. *Carex*, Linn.

###### *Carex spinirostris*,<sup>840</sup> sp. nov.

*Plant* densely cæspitose. *Culms* leafy, obscurely triquetrous, slender, smooth, 10–11 inches long. *Leaves* much longer than the culms, 2 feet 6 inches–2 feet 9 inches long,  $\frac{1}{6}$  of an inch wide, linear-acuminate and very acute at tip, rather flat, sub-membranaceous, striate, keeled, drooping, dark-green, slightly scabrous, with finely and closely serrulated margins. *Spikelets* [336] 7, slender, cylindrical, rich reddish-brown; 3 lower very distant, nearly 2 inches apart,  $1\frac{1}{4}$  inch long (or more), and compound or subpanicked, unisexual, *female*, save 1 or 2 *male* flowers at the base, nodding; 4 upper crowded and shorter (except the top one which is 2 inches long), unisexual, *male*, but having a few *female* flowers at the top of spikelets. *Bracts* very long, 2 lowest foliaceous and much longer than the culm, the upper ones setaceous and reaching to about the length of the culm, all very scabrid; each bract having a pair of long membranaceous linear-oblong bracteoles (or sub-ligulæ) at base and clasping the peduncle. *Peduncles* filiform, wiry, angled, and scabrid. *Glumes* oblong, much longer and broader than the utricle, shining, truncate, and fimbriate at tip, nerved, edges membranaceous, cuspidate or awned, the beak, or awn, stout, green (some white), very long (1 line, and some more), very coarsely barbed. *Utricle* glabrous, sub-oblong-ovate, brown, bicuspidate, cusps spreading, barbed. *Stigmas* 3, light-brown, rough, half-exserted, spreading at tips. *Filaments* and *anthers* very long; *filaments*

839 *Uncinia uncinata* (L.f.) Kuk.

840 Stet.

white, flaccid and much wrinkled; anthers linear, apiculate at tip, reddish-brown.

*Hab.* In *Fagus* forests, near Norsewood, with the preceding *Unciniae*: W.C.

### Class III. CRYPTOGAMIA.

#### ORDER V. HEPATICÆ.

##### Genus 30. *Sympygyna*, Mont. and Nees.

###### *Sympygyna biflora*,<sup>841</sup> sp. nov.

*Plant*, terrestrial, gregarious, each plant simple, erect, stipitate, the largest under 1 inch long; roots short hairy; *stipe* 4–6 lines long, subflexuous, compressed, winged above, 2-nerved from the base of frond; nerves very distinct; *frond*, decurrent on the stipe, 3–5 lines long, 7–9 lines broad at base, mostly branching at base into two main divisions, each division once or twice dichotomous, symmetrical, kidney-shaped in outline, sometimes palmate, glabrous, pellucid, very finely reticulated; *colour*, light-green; *segments* linear, or linear-spathulate, 1 line broad, very obtuse, rounded at apex, deeply emarginate with sides conniving, nerved to base of notch, margins finely serrate; teeth long falcate and transversely barred; sinuses rounded; *fructification* in axils of nerves near base of frond beneath, generally two on each plant, symmetrical; *involute* a small narrow oblong scale in front of calyptra, jagged at margin; in a few of the largest plants, two additional involucres have been noticed, one at the base of each upper pair of nerves: *calyptra* tubular, 3–3½ lines long, bifid at apex, margins fimbriate; *peduncle* 1 inch long, erect, chartaceous, white; *capsule* 2 lines long, linear-oblong, cylindric, acute, 4-valved, abounding in long elaters; *colour*, rich red-brown. [337]

*Hab.* On clayey banks, "Seventy-mile Bush," between Norsewood and Danneverke: W.C.; Glenross: Mr. D. P. Balfour; (North Island): near Blenheim (South Island): Mr. F. Reader.

Although at first sight this species may appear very near to *S. hymenophyllum*, *S. flabellata* and *S. leptopoda*, and also to my new species *S. rugulosum*, there are many points of distinction between them. It is a much smaller plant with a shorter stipe, each simple frond being also a perfect plant and not rising from a creeping rhizome,—which, those four species severally do. It further differs from *S. flabellata*, *S. leptopoda*, and *S. rugulosum*, in having serrated margins; and from *S. hymenophyllum* (which has serrated margins), in its serratures or teeth being much larger and closer, and in the divisions and outline of its frond, in the shape of its segments, their apices and sinuses, and most distinctly in its very minute areolation. Fortunately I have been able to examine a large suite of specimens, from Hawke's Bay district, and from Blenheim (South Island); and am also well acquainted with all the known New Zealand species of this genus.

[*Obs.* In describing the fructification, I have added this word—"beneath"—for clearness; although it properly belongs to the generic description, which character, however, is not given in its place, in the short description of the genus in the "Handbook," nor in the "Flora of New Zealand." From my too closely following what is said in the

"Handbook,"—at the close, under "Additions, Corrections," etc.,—"a new arrangement of the New Zealand genera of *Hepaticæ* by Mitten," (p. 752)—I fell into an error three years ago in describing, or rather in partly naming, another new and closely allied species, *S. rugulosum*, mihi;<sup>842</sup> as there the genus is shortly characterized by Mitten as having the "Calyptra on *upper* side of often stipitate frond," which, of course, can only mean its *ventral* surface; and *Metzgeria*, the next genus in sequence, is said by him to have the "Calyptra on the *under* side of frond," Sir J.D. Hooker, however, in his "Key to the Genera of the New Zealand *Hepaticæ*," ("Handbook," p. 500), gives as a character of this genus,—"Involucra a toothed scale *dorsal*:" and so again, in his "Flora N.Z.," vol. ii., p. 127,—*Sympygyna*, *Calyptra dorsal*, etc.: and in his "Flora Tasmaniæ," vol. ii., p. 239, he further says, under *Sympygyna rhizobola*, (which had also been erroneously described by Dr. Taylor as having its "Calyptra *ventral*,") "the fructification is truly *dorsal*, as in all others of the genus." And so it is stated in the "*Synopsis Hepaticorum*": but all this I did not fully know three years ago, until after I had described *S. rugulosum*, (although at that time I had doubts about it, as my paper will also show), being led astray, as I take it, by the latest published authority on *Hepaticæ*.] [338]

###### *Genus 41.*<sup>843</sup> *Monoclea*, Hook.

###### *Monoclea hookeri*,<sup>844</sup> sp. nov.

*Plant* procumbent, frondose, imbricated, very flat, thick, succulent, densely rooting all over lower surface; colour grass-green. *Fronds* very large, spreading, plane, apparently continuous, glabrous, hairy below and at the edges; lobes unequal, of all sizes and shapes, often largely crenulate and sabrotomed at margins, which are sinuate and undulate. *Calyx* none. *Calyptra* (or perianth) membranaceous, greenish-white and transparent, tubular, 4 lines long, 1 line broad, slightly bilobed and jagged at tips, lips very obtuse, wholly included within the cavity of the frond, which is near the margin on the upper surface, where it remains enclosing the base of the seta. *Seta* 1¼ inch long, 1 line broad, linear, terete, stout, succulent, glabrous, whitish, erect from frond, but the part included (with the calyptra) is horizontal, sometimes 1, 2, or 3 issue from the same simple fissure, and are disposed closely together flat and parallel within the frond, without any prominent ridgy markings on its surface to denote them. *Capsule*, terete, at first (before bursting) linear-oblong, obtuse, erect, 2 lines long, dark brown, smooth, glossy, without striae or markings, bursting below longitudinally, when the margins become revolute, and the spores and spiral filaments show themselves in a small floccose woolly like mass, their colour a dirty light-ash-yellow; afterwards the empty capsule spreads out and assumes an oval figure, the texture being very finely reticulated.

Spores and elaters are numerous, closely resembling those of *M. forsteri*. I could not detect any vestige of a columella,

842 WC: "Trans. N.Z. Inst.," vol. xiii., p. 368.

843 WC: This genus does not appear in the "Flora N.Z.," neither in the "Handbook Flora N.Z." (as it was not known to inhabit New Zealand). I have, therefore, numbered it to come after *Riccia* (Gen. 40), the last genus of Sir J.D. Hooker's *Hepaticæ*; although I am aware that the authors of the *Syn. Hepaticorum* place it before *Marchantia*.

844 *Monoclea forsteri* Hook.

the want of which (as first shown by the founder of the genus, Sir W.J. Hooker) has been by some disputed.

*Hab.* In damp forests on the ground, on the immediate margins and sides of streamlets, near Norsewood, Hawke's Bay, 1882; W.C.

*Obs.*—This plant is very common throughout New Zealand—almost sure to be met with on the borders of watercourses and springs in shady low-lying woods—but very rarely in fruit. Indeed I—who have known it in its barren state for nearly fifty years, and have very often diligently sought its fructification—never saw its fruit before I found these specimens; and I was mightily pleased at my discovery. Although I gained several fruiting specimens, yet these all grew in one small spot (and, apparently, from one plant), I could not find any more though there were feet, or yards, of this plant luxuriantly growing there. I had always supposed this plant to be [339] identical with Forster's plant (*M. forsteri*, Hook.), which was discovered by him when with Cook somewhere in the "Southern Islands,"<sup>845</sup> and of which no specimens have been obtained since Forster first gathered them. This species, however, though possessing close affinity with that, bears a different shaped capsule, which is not striate or marked longitudinally as that is, its calyptra also is differently situated, and has different lips, and there are other differences in its frond.

I have very much pleasure in naming it after the late Sir W.J. Hooker, who established the genus, and who correctly described and drew the original plant in his justly celebrated *Musci Exotici* (vol. ii., tab. 174), so that the names of those two honoured botanists may remain together in connection with this small abnormal and highly curious natural genus, which now contains 2 species.

**1883 Three literary papers read before the Hawke's Bay Philosophical Institute during the session of 1882:—I and II, On Nomenclature; III, On "Macaulay's New Zealander."**

*Daily Telegraph* Office, Napier. 41p.

So go forth to the world, to the good report and the evil!  
Go, little book! thy tale, is it not evil and good?  
Go, and if strangers revile, pass quietly by without answer.  
—For it is beautiful only to do the thing we are meant for.<sup>846</sup>

Da sapienti occasionem et addetur ei sapientia.<sup>847</sup>  
*Ancient oracle.*

845 WC: "In Insulis Australibus." (Forster in Hb. Lambert).

846 From Arthur Hugh Clough's epistolary poem "Amours de Voyage" (1858) line 1235 et seq.

847 Give instruction to a wise man and he will be yet wiser. (Proverbs 9: 9).

## PAPER I.

### ON NOMENCLATURE.

*[Read before the Hawke's Bay Philosophical Institute, 10th July, 1883.]*

—“Never change barbarous names,  
For there are names in every nation given from God,  
Having unspeakable efficacy.” ZOROAST. *Chald. Oracles.*

This subject of Nomenclature in its entirety is a broad one possessing many branches, some of them differing widely from others. I have long been desirous of offering a few remarks upon this subject, hoping (or, may I not say, believing?) that such may prove to be of service in time to come.

I shall divide my Paper into two principal heads; viz., the *first* part, on matters appertaining to the Maori tongue; the *second*, on certain Colonial alteration and innovations made in the English and other allied languages.

#### Part 1.

##### ON MATTERS RELATING TO THE MAORI TONGUE.

###### *1. Of Errors on the part of Foreigners and Colonists, arising from their ignorance of the Maori language; especially of Maori proper names for persons, places, and things.—*

That the Maori people had very many highly significant names for things in general, is pretty well known to those who are well acquainted with their language; although, on account of their plainness, some could only be translated into English by an euphemism. Just so it always was with their names for persons and for places. It is not, however, with reference to the meaning, the utility, or the beauty of such Maori names in their estimation, that I am now about to write,—but of the errors of Europeans respecting them; and these I purpose showing in a few instances (some highly ridiculous):—1. In the *Orthography*:—2. in the *Meaning* of the words. These two subjects, though distinct enough in English, go always together in the Maori language; because (as I have shown before in a former Paper<sup>848</sup>), the two languages differ so widely in [2] their construction. Twenty, or more, orthographical errors may occur in the columns of an English Daily Newspaper, without any one becoming a serious error,—that is, making an entire change in the meaning of the word, the sentence, or the subject; or, even causing the word or words so spelt erroneously to mean anything else, or to be wholly misunderstood; but such is not the case in Maori,—here every orthographical error is more or less of a serious one; and as it is in the writing, so it is in the pronunciation, and, consequently, in the meaning and etymology.

For the present, however, I shall consider these separately: and, first, erroneous orthography.

This commenced early, in Cook's time, as indeed might have been expected seeing the Maoris had then no written language; the only marvel with me has ever been, that Cook and his party on the whole managed so well as they did,

848 WC: Vide "Essay on the Maori Races," Trans. N.Z Inst., Vol. I., §48 of Essay:—Trans. N.Z. Inst., Vol. XIII., p. 64, etc.

which must mainly be attributed to their having the Tahitian native Tupaea with them as a *quasi* Interpreter.<sup>849</sup> Unfortunately, however, these errors still continue! notwithstanding their settled, plain, written and printed tongue. I will give a few instances taken from the earliest and latest.

Although Capt. Cook was so very unfortunate in his first interviews with the Maoris at Poverty Bay, still he managed to obtain pretty correctly the names of two places there, which he has laid down in his chart,—*Taoneroa* (Te Oneroa = the long sandy beach), and *Tettuamotu* (Te Tua Motu—the little island off the N. head). A few days after, in anchoring and watering a little further to the N.,—first at *Tegadoo* (Te Karu, the headland at Anaura off which his a ship [3] anchored “sheltered by the little island<sup>850</sup> there,”) and subsequently at *Tolaga* Bay,—he seemed to have misapprehended altogether the name of this latter place. How he managed to get hold of, or to misconstrue that word of *Tolaga*,—has ever been to me a mystery,—and that too, after many enquires made early on the spot. The nearest and most reasonable approach thereto (seeing *Tolaga* is given as its Maori name) is *Tuaraki* = the N.W. wind; (*I* and *g* having been often confounded with *r* and *k* by Cook;) which wind, the old Maoris said, was blowing strongly at the time of his entering the bay,<sup>851</sup> and the name was given to him by their fathers in answer to his repeated question of “the name”; they supposing he meant that of the wind then blowing: Maoris too, not generally having proper names for open bays.

In Cook’s chart of Hawke’s Bay, the strait between Portland Island and the Mainland is laid down as being called in Maori, *Hauray*; now the proper Maori name of that strait is the same as this here with us,—the strait, or channel, between the E. and W. Spits (Napier),—and significantly named by them *Ahuriri* = (the) fierce rushing (water).

849 WC: In the large 4to. original edition of Cook’s Voyages, Capt. Cook has a few racy and correct remarks on the N.Z. language, highly applicable here; he says,— “It is the genius of the language to put some article before a noun, as we do the or a; the articles used here were generally he or ko: it is also common here to add the word öeia after another word as an iteration, especially if it is an answer to a question; as we say, yes indeed; to be sure; really; certainly: this sometimes led our gentlemen into the formation of words of an enormous length, judging by the ear only, without being able to refer each sound to its signification. An example will make this perfectly understood:—In the Bay of Islands there is a remarkable one, called by the natives Matuaro. One of our gentlemen having asked a native the name of it, he answered, with the particle, Komatuarto; the gentleman hearing the sound imperfectly, repeated his question, and the Indian repeating his answer, added öeia, which made the word Komatuartoöeia; and thus it happened that in the log book I found Matuaro transformed into Cumettiwarroewia: and the same transformation, by the same means, might happen to an English word. Suppose a native of New Zealand at Hackney Church, to enquire “What Village is this?” the answer would be, “it is Hackney”: suppose the question to be repeated with an air of doubt and uncertainty, the answer might be, “it is Hackney indeed,” and the New Zealander, if he had the use of letters, would probably record, for the information of his countrymen, that during his residence among us he had visited a village called “Ityshakneeindedede.”—Voyages, Vol.III., p. 476.

850 WC: “Parkinson’s Island,” as laid down in the Original Map of the Voyage.

851 WC: This agrees with what both Cook and Parkinson say.

One of the latest misnamed notable places among us, is the present terminus of the Railway, which has been named and written, and printed and painted, in all manner of ways except the right one! viz. *Makatoka*, *Makatoko*, *Makatoku*; the right one being the expressive and simple word *Maakotuku*<sup>852</sup> = the stream of the white heron; a name very likely given to it in ancient days, from one having been seen or caught there. In the naming of this place (or, rather, the writing down of its old Maori name,) nothing was easier, as there were plenty of Maoris resident there who knew how to read and write, and could have given its proper orthography; and they have often since (when I have been in that neighbourhood,) joined in a hearty laugh at the invincible ignorance of the pakeha (= foreigner) re Maori words.

These three errors in the spelling of that one word will serve as a simple example of what I have just said, that “every orthographical error in Maori is more or less a serious one”; for *Makatoka* means, (to) cast a big stone; *Makatoko* = (to) cast a walking-staff, canoe-pole, &c. ; *Makatoku* = (to) cast my clothing-mat, or garment.

Another wrongly-named place, lately settled, and not far off from the last one, is *Tahoraiti*; this Maori name, as it is now transformed by Europeans is pretty nearly nonsense! whereas its proper name of *Tahoraiti*, is a highly significant one, meaning, the little open wilderness, or, the little desert; which was very [4] suitable for it; it being originally (when I first know it in 1845,) a small open wild surrounded by dense forests. The error however, in the spelling of the name of this place, has been often pointed out by me; but, it seems, the settlers there and others will have it so.

A similar error to this last noticed appears likely to be perpetuated in the name of the ford (and newly-erected bridge) across the Ngaruroro river, at a wild spot high up between the two mountain ranges—Te Kaweka and Ruahine. The old and peculiar Maori name of this ford is *Kuripapango*; which (after running a series of orthographical changes among the settlers, as usual,) has settled down to *Kuripapanga*. Here, again, you will observe, the terminal vowel is wrong, and this error spoils both the word and its meaning. When I first waded this river at this wild fording-place in 1847, (35 years ago!) and obtained its name I was struck with its peculiarity; as it did not convey to my mind any thought possessing a purely Maori derivation, (although the two words of which it is composed are pure Maori words,)—at all events, I strove hard and for a long time to find out its original meaning, but down to this day I am not satisfied about it. And, I may further say, that one reason is, the name seems to me to be closely allied to a suitable Sandwich Island (Hawaiian) word, or phrase, (like several other old and almost obsolete Maori words,—all tending to show the ancient oneness of this great and universal Polynesian language!) *Kuripo*,—is a pure Sandwich Island word, meaning, deep dark water, as in pools among the mountains; which meaning would be highly suitable there for that water, with the Maori adjective, *pango* = black, or blackish, added, to intensify it. Of course, I know, that instead of *Kuripo* (in the present name) it is *Kuripa*; that, however, is a slight alteration, which might have occurred in the rare pronunciation of an obsolete or little-used word through non-usage during a long lapse of years,— and there are other known similar instances. In Maori, *Kuri* is a dog, and *papango* is the little

852 WC: This word is also a contraction of its longer original name,—Mangakotukutuku, having the same meaning.

black duck, or teal; these two words thus compounded, do not yield to my mind a correct Maori meaning, and the old intelligent Maoris (to whom I have formerly spoken about it,) have always laughed at it as being far-fetched and incongruous.<sup>853</sup> *Kuripango* = black dog, would have been a better Maori term, but still not satisfactory.

Another curious error (not, however, the first of its kind,) is made in the [5] dividing of the Maori name of the place, though spelled correctly, into two words, each word beginning with a capital letter!— *Onga Onga*: and it is pertinaciously stuck to!! Why on earth those settlers, and others, should so choose to write that common Maori word, *Ongaonga* (= Nettle) I cannot conceive. Is it because of its reduplication? Then, analogically, they should so write the English words,—mur mur, tar tar, pa pa, do do, &c.,—beginning each fragment also with a capital letter!

Some of the notorious old errors in the Maori names of places around us, I regret to say, still continue, (though many, happily, have been corrected,) as, for instance, the name of the rising township of *Kaikoura*, erroneously spelled *Kaikora* (sometimes *Kikora*), here the difference in the European pronunciation of these two words is not so great to the untrained ear, but the difference in the two Maori words is extreme (as well as in the Maori and true pronunciation of them); besides, the commonly used one is simply ridiculous and unmeaning. The old proper name, *Kaikoura* = (to) eat fresh-water prawns, or, (an) eater of fresh water prawns,—arose from the fact of that crustaceous shellfish (*koura*) being formerly found in the little stream there, where the Maoris used to go and catch them for food; whereas *Kaikora* literally means, to eat sparks of fire!— if indeed it can be said to mean anything at all in Maori.

Another place still nearer Napier,—well-known in its modern history as being notorious in bloodshed and in Law Courts!—is *Omarunui*, commonly called *Omaranui*: the first and proper Maori name meaning,—the residence (or cultivation) in old times of a Chief named *Marunui* = Great Slayer (a common name for a Maori chief); whereas the second and incorrect word—the residence &c. of a chief named Great Cultivation! which, according to Maori customs, was degrading and impossible, and, as in the former case of *Kaikora*, both wrong and ridiculous.—

Another place not far from the foregoing and nearer Napier, (and close to the present rising township of Taradale,) was called by the Maoris *Taipo*; this the settlers easily miscalled *Taeipo*,—and then mark the consequence!, *Taipo*, means the night tide, (or, no doubt in this case, from onomatopoeia, = the night sounding surf; as there, although 4 miles from the outer sea-beach, the surf resounds loudly from its curvilinear range of hills on a still night, as I have often heard it,) hence *Taipo* was, again, a highly suitable natural name. But *Taeipo*, means to visit, or come, by night,—a night visitant,—a spectral thing seen in dreams,—a fancied

853 WC: I may here mention in a note, that I have often enquired in years gone by of aged priests and chiefs respecting the derivation of this, and of many other similar and peculiar proper names, and have very frequently received the answer,—“It was given by the men of the olden time, and the reason is to us unknown.” Here it should also be borne in mind, that in very many instances the ancestors of the tribe now dwelling in, or owning those places, were not those who had originally named them; they had been early killed and exterminated! and so it had gone on for ages in succession! See a very good Maori letter on this subject translated by me.— “Trans. N.Z. Inst.” Vol. XII., p. 97, note.

and feared thing, or hobgoblin, of the night or darkness; and this the settlers generally have construed to mean the Devil!—and, of course, their own orthodox one!!<sup>854</sup> [6]

Worse still are the many errors concerning the names of two well-known places near Napier; both possessing rather long Maori names, which, while quite easy and mellifluous to the Maoris, and to those few Europeans who well-know their language, are a real *pons asinorum*<sup>855</sup> to the many! I could not take on me to repeat or recount the several broken and twisted *patois* names I have heard given to *Kohinurakau* and to it adjoining high hill *Kahuraanake*. Perhaps I had better give pretty fully the meaning of those two names (of places celebrated in the olden time), as such is not only interesting, but will again serve to show how correctly the ancient Maoris often named their localities. 1. *Kohinurakau*: when I first knew this place it was a delightful spot; a small grove of fine trees (some being pines), a perennial gushing streamlet of delightful water, and very fertile soil,—all in a small open dell or natural terrace near the summit of a very high hill (one of a long range), commanding an extensive view; where, for several years, the Maoris had their cultivations and a small village: *Kohinurakau* = choice-fat-of-the-woods,—including Maori game,—birds and delicious wood-rats, fruits, and pure water.<sup>856</sup>

2. *Kahuraanake*: the name given to this high hill is a most expressive and very peculiar term, being really not a noun but a sentence including a verb, and meaning,—(It-is-only-by-it-revealed, shown or made known; or, The only, or pre-eminent, revealer. There are, at least two derivations of this name:—1. The peculiar peaked and isolated broken summits of this big and lofty hill are seen from the N. shore of Hawke’s Bay, 60–70 miles distant, as well as from all the intervening country; and towards it the eye of the old Maoris was always directed in steering their canoes in a Southerly direction across the Bay, or in travelling thitherwards from the N.—2. Whenever the summits wore a hood of mist or cloud, it was an unfailing sign of rain and of bad weather coming on; and so, with the old Maoris, It was the great revealer, or indicator, of the place to which they were going; and also of the coming weather. A short time ago I received a letter from an old and [7] respectable settler, in which the name of *Kohinurahau* was written “Queen Arata”! which for some time, there being no clue in

854 WC: See a similar European error re “Hades” and Hell, exposed, in “Transactions N.Z. Institute,” Vol. XII., p. 122, and note there.—As some who may read this paper may not have access to Vol. XII. “Transactions,” I give here the European error alluded to above in an extract from the said note (omitting, however, from its length the very interesting Maori legend). “A few years ago the Superintendent of the late Auckland Province (Mr. J. Williamson) sought to have an interview with a Maori chief of note on political matters; this, however, the chief would not grant, ending with saying,—“you and I shall never meet until we meet in the reinga.” This, of course, was made much of. The dreadful bitterness of expression,—“never until we meet in hell!”—was intensified and dwelt upon shudderingly with much Christian feeling, but all through ignorance on the part of the Christian Europeans. The New Zealander had no such thoughts, and only made use of an old Maori saying; the English having chosen this word (reinga) as the equivalent for hell; a meaning, however, which it does not possess.”

855 Bridge of asses.

856 WC: With the old Maoris, the fat, or oil, of lands, forests, &c., meant their choicest plentiful fruits and productions; just as with the ancient Hebrews,—“fat of the land,” “fat of fruits” &c.,—Gen. 45. 18; 49. 20. Num. 18. 12, 29. Ps. 81. 16; etc.

the letter to its true meaning, puzzled me pretty considerably.

For a long time, and until lately, our Newspapers constantly erred in confusing the names of two important seaports here on the E. Coast, viz. *Turanga* (Poverty Bay), and *Tauranga* (Bay of Plenty): also, in the names of *Waikari* (the river between Napier and Mohaka), and *Waikare* (the name of the lake in the interior of the County of Wairoa),—and this latter still continues! Some even go so far as to laugh at the difference! But the etymological meanings of those two names of waters are widely distinct, and, severally, are again very suitable; *Waikari* = water running through a deep cut, narrow cliffs, or channel (which that river does); and *Waikare* = rough, agitated, or surging water (which that open exposed sheet of water, high up among the mountains, often is).

A similar error on the part of the Newspapers, and the Settlers generally, was made in the name of the late principal Maori Chief of these parts,—*Te Hapuku* = the Codfish, (par excellence!) and its common name throughout New Zealand; this name was by them lowered to *Hapuku*,—a most unmeaning word in Maori,—with the further depreciation through the omission of the definite article,—*Te*. Of course, from the time of his being so called, here, on this Coast, another name was always used for that fish, viz. *Kauwaeroa* = long jaw; and time was when it would have been death to the offender if of *Te Hapuku*'s tribe to have wilfully called this fish by its old name of *Hapuku*.<sup>857</sup>

Just so it is, again, respecting a place of anchorage and shelter from southerly ales on the N. side of Table Cape, its Maori name being *Whangawehi* = Fearing, or Apprehensive, Bay, or stopping-place, (a very good and suitable name, indicating its being exposed and open); this, the Colonists, and the Government too, have altered to *Whangawhei*! a word that has no good meaning whatever in Maori.

Here I may also briefly notice two modern Maori names of lately settled places near us, and that because of their ambiguity as those names are now printed and set up; viz. "Tomoana," and "Awatoto." By the Maoris of these parts, who well know how to pronounce those two names, the orthography though incorrect would be understood; but any Maori coming from a distance, and not having heard the true pronunciation intended, yet not shown, would be almost sure to pronounce them wrongly,—and so, perhaps, be laughed at; at all events, if not set right, he could not know their true Maori pronunciation and therefore their meaning; and this arises from their not being spelled as a Maori understanding their intended meaning would spell them. Sometimes the vowels in a Maori word are long, and sometimes short, (as in Latin,) and if such are not [8] distinguished in the writing, an error in reading is almost sure to be made,—unless, as I said before, the meaning is previously known to the reader. Thus, *Tomoana* should be *Toomoana*; and *Awatoto* should be *Awatootoo*; for the meaning of the word *Tomoana* (as it is now printed and painted up), is, To enter a cave; whereas, *Toomoana* means To be dragged or drawn from the sea; the true and intended meaning here.<sup>858</sup> So *Awatoto* means, the bloody river; but

*Aroatootoo* = the dragging river or passage;—which that little long and narrow winding creek was in former days truly enough! as I have known to my sorrow in early travelling (toilsome canoe-voyaging, or dragging) through it.

As we travel further S. into other districts, such errors thicken; witness,—the ugly and unmeaning "Taourakira Head" (the W. head of Palliser Bay), for the old name full of meaning of *Turakirae* = Windy Head, (*lit.* Forcibly-throwing-down-point):—the *patois Petoni* (near Wellington), for *Pitoone* = end of the sandy beach,—another suitable and highly significant name :—*Wanganui* for *Whanganui*, &c., &c. In the Middle Island it is still worse! An appropriate well-timed modern example thence, we have at hand in the name of the fine new steamer from Dunedin, which arrived here in our roadstead only [9] yesterday her *patois* name (it appears) is *Maniapori*, (a most incongruous unmeaning compound name or term in Maori, which has been disputed over, and further altered in the Newspapers of the day, to *Manipori*, *Manapori*, *Manapouri*, &c.,) —whereas the same—being the name of a large S.E. lake of the South Island, situated far inland among the mountains,—is *Manawapore*<sup>859</sup> = anxious, or apprehensive, heart. No doubt another proof of a highly suitable name once given to that sheet of water, expressive of the feelings of those who might have had to cross it in their small and frail fresh-water canoes, or rafts. Surely if it is deemed right to keep up the ancient Maori name of any place or thing, such should be spelled correctly according to the

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brother, lately deceased, Karaitaina (Christian) Takamoana, was the Maori Member before him, and as both their compound surnames terminate with moana = Ocean; it may be well to give in a note the origin of those names, or the cause of their being conferred on these two (uterine) brothers; for, like in many other instances, those surnames were not those of the family, nor their own earliest names.—

Some 50 years back, one of the then principal and powerful Chiefs of this place, Tiakitai, (always miscalled by the early foreigners "Jacky Ty"!) went on board of a ship, in this Bay; and, the weather changing, he was carried off in her to Port Jackson and other places; he returned however safely to his home and tribe. Hence the name of Takamoana = to change, to roam, to go about from place to place by sea, was bestowed on this then young Chief and relative, in commemoration of that event. Toomoana, was also conferred as a name on the younger brother, on account of an insult or threat, spoken in the old days of feuds and bloody fightings, (and but a very short time before that I came here to reside,) in which the speaker threatened to drag up their canoe with its contents from the sea, and, of course, to seize it, &c. Hence, to keep the insult (which was a gross one) in remembrance among the sub-tribe, in order to its afterwards being fully avenged, this name of Toomoana = Dragged from the sea, was given to the boy. Such changes were common, and cause great trouble in unravelling their history, legends, &c. (See "Essay on the Maori Races," Transactions. N.Z. Inst., Vol. I., §28(2); and, Vol. XIV., p. 15, notes.)

In the last edition of the Maori Bible this has been in a measure obviated, by using both long and short marks over the vowels where required; but this is more for the benefit of the English reader. I have never known a Maori so to write, but, on the contrary always to use the two vowels together to make the necessary long sound, which is also done by the other Polynesians. And here I may also remark, that the syllable too (in the Maori words above), is not pronounced as it would be in English, but as if written (in English) toe, or tow.

857 WC: Vide "Essay on the Maori Races," Trans. N.Z. Inst., Vol. I., §43.

858 WC: As this new township has been named after the present resident Chief and Maori Member in the House of Representatives—Henare (Henry) Toomoana, and as his eldest

grammatical rules and construction of the Maori language? Such would prove of no small service hereafter in philological pursuits. For, as I have said before,— “Language adheres to the soil, when the lips which spoke it are resolved into dust. Mountains repeat, and rivers murmur, the voices of nations denationalized or extirpated in their own land.”<sup>860</sup> But, in order to this being done, care must be taken to transmit the same truly, whether by oral tradition or in writing. Strange thoughts arise at times within me, when I contemplate, on the one hand, the uncivilised unlettered Maori carefully handing down the names of places and things obtained from his forefathers from time immemorial, without error or change; and, on the other hand, the civilised lettered European, who, while apparently desirous of retaining the same names, neither speaks nor writes them correctly, and, worse still, does not care about doing so! The great Provincial District of Otago still adheres to its erroneously spelled Maori (*sic*) name; (some, however, here among us, knowing that it is not Maori, might think it derived from the Gaelic!) That is still further outdone by their keeping the horrid ungrammatical term of “*Maori kaik!*” for, *Kaaina maori*. And worst of all, those errors (with many more of a like kind) are taught to our children in the Colonial Schools throughout the land.<sup>861</sup>

And as I have here just touched upon the Colonial School-Books (Geography of N.Z.) and their Maps in use in our Schools, one other great and glaring error [9] contained therein I feel bound to notice more particularly, and that is the Maori name of the Southern Island. I do this the more especially as its true and proper name was early given correctly by Cook himself. Its old name is *Te Wai Pounamu*, or *Te Moana Pounamu*; meaning,—the water in which the Greenstone dwelt. For with them, the Greenstone (their greatest valuable) was a living being, and dwelt in the waters of the S. Island, whence it was obtained by the N. Maoris (through barter) at great expense and trouble, and believed to be only caught at certain seasons, and then only by the powerful use of many prayers, &c.<sup>862</sup> In our School Books, however, all this is set aside; and we are plainly and unpoetically told, that the S. Island is called in Maori,—“*Te Wahi Pounamu*, or the place of the Greenstone.”<sup>863</sup> This name, however, is not of Maori origin; it is another attempt on the part of the Colonist to correct the Maori name, and then to give to his own thought his own meaning! (*supra*,—Taipo, &c.)

Some of the errors in Maori nomenclature made by the early Naturalists and Botanists in this Country are highly amusing

860 WC: Essay “On the Maori Races,” §51, par. 5; Transactions N.Z. Institute, Vol. I.

861 WC: A few years back when I held the office of Government Inspector of Schools for this Provincial District, I was frequently sorely puzzled in my School visitations, owing to the erroneous orthography in many places in the Maps and School Geography of New Zealand. Very many Maori names of places I knew to be wrong, and others of places unknown to me I supposed to be so, as they were not given in true Maori, (of course I am referring to the edition of 1871; there may, however, have been subsequent editions with these errors altered.) And this was the more to be regretted, for the outlines and execution of the maps were very clear and correct; and very much of the information given, (physical, descriptive, and historical—modern,) was of a superior and useful character.

862 WC: The old legends respecting it are very interesting, of which more anon.

863 WC: New Zealand Geography, page 3.

if not interesting; the more so because not unfrequently they also give their own safe (*sic*) deductions therefrom! First, making the mistake themselves in the orthography, &c., and then (secondly and consequently,) giving an erroneous meaning.—A few of them I will here briefly notice.—

The French Naturalist Lesson, (who accompanied Adm. D’Urville in 1826-1829,) gives the Maori names of several plants, a few of them are quite correct; of some, however, it is impossible to know what was originally said by the Maoris to him, or intended by the writer; one, in particular, has often made me to smile,—it is the little seaside plant *Spergularia marina*, whose Maori name, Lesson says, is “*Notenoho*.<sup>864</sup> This, however is not the name of a plant, but a pure Maori sentence, (given, no doubt in answer to a question,) meaning,—From the, sitting or resting-place; i.e. (gathered by you) from the spot (where you were) resting, or sitting.

Dr. Dieffenbach, writing of our N.Z. Birds, says,—“the Cormorants have something solemn in their aspect, and are called by the New Zealanders *Kauwau* or the Preacher.” (!)<sup>865</sup> and, again, in his “Vocabulary,” appended, (*not*, however, wholly of his own collecting!) he has, “*Kauwau*, a Shag; preaching.” This arises, (1) from his mistake in the orthography and pronunciation of two words, here by him confounded, which widely differ; *Kauwau*, being the common name for the Shag; and *Kauwhau*, to address an assembly, speak formally and lengthily, as the old Maori orators and chiefs; hence, to preach (modern). One [11] might as well say, that the two English words, *Cat*, and *Cart*, were alike, in sound and meaning! (2) but this notion (like very many others in Dieffenbach’s work) was not original with him; he had got it from Polack’s book on New Zealand, published few years before; who of course, characteristically adds thereto; and the Doctor, having once got hold of the ludicrous idea, (and not heartily liking the Mission-body,) evolved, German-like! the added “solemnity of the Shag’s aspect” from the depths of his own mind!

Dieffenbach also, (*passim*,) delights in reduplicating common names of birds &c.,—e.g. the *Kiwi* (*Apteryx* sps.,) is with him *Kiwi Kiwi*; the *Ruru* (owl) is *Rurururu*; the *Weka* (wood-hen), is *Wekaweka*; the *Paraoa* (sperm whale), is *Paraparaua*, &c., &c. Errors of this kind however were very common with most early foreign visitors, as I myself have often heard them used. The worst was, that the younger Maoris (always apt imitators, especially in the olden time,) not unfrequently copied from their visitors, especially if such were of some note, and hence those errors became perpetuated.

In the List of Maori names of Plants appended to Sir J.D. Hooker’s “Hand-Book N.Z. Flora,” there are several errors; some, no doubt arising from the writers jotting down the Maori name they had just heard, according to their own foreign notion of writing it,—forgetting, that no Maori name or word, ever ends with a consonant.<sup>866</sup> I will select

864 WC: “*Voyage de L’Astrolabe, Botanique*,” Vol. I., p. 315.

865 WC: “*Travels in New Zealand*,” Vol. I., p. 77.

866 WC: I have often been struck some 40 years ago with the close phonetic rendering of many Maori names of Birds, Fishes, &c., by the two Forsters (father and son) who accompanied Cook on his second Voyage to N. Zealand, and with the large amount of patient toil they must have experienced in taking them down; albeit their orthography, at first sight, abounding in harsh double consonants, looks very barbarous, and is anything but tempting: also, with those of Lesson (already mentioned) and other

one, *Toumatou*, because its [11] pseudo-Maori name has been unfortunately made into a specific botanical one for the plant, by its describer M. Raoul,—*Discaria Toumatou*. Now this, I am sorry to say, is worse than rubbish! The correct Maori name of this plant is *Tumatakuru*<sup>867</sup> = the demon-smiter, or striker of faces; which name, from its thorny structure and dense habit of growth, is very expressive, particularly to a Maori of the olden time—almost naked! *Toumatou*, however, is not a Maori word at all, and scarcely even a grammatical phrase; and if translated can only mean, thine-our,—or thy-we,—or *albus-anus-tuus!* But one of the grossest errors in that List, is the (*pseudo*) Maori name of a small plant said to be obtained by the Rev. R. Taylor from the interior, and given in full by him; Taylor calls it, “*Te-pua-o-te-reinga*”,<sup>868</sup> and he translates it by “The flower of Hades (or hell)!” [This, however, was nothing new for Mr. Taylor, his book abounds in such!] I have made many enquiries after this plant (partly at the pressing request of Sir J.D. Hooker,) which seems to be scarce, or, more likely, local and overlooked,—being but a small leafless parasite on the roots of trees in the forests. Very likely the Maoris who were with Taylor on that occasion, gave it the name of “*Pua reinga*,”<sup>869</sup> from noting his eagerness to get it, (which Taylor amplified into *To pua o te reinga*! adding thereto his own mis-translation). Now *Pua reinga*, as given by them, means,—A (or the) flower eagerly laid hold of, grasped, sought after, or desired: just as in the common Maori term “*Wahine reinga*;”—a (or the) woman eagerly followed, sought, &c. No such idea as “the flower of Hades,”—as we understand that term,—was ever associated by any Maori with that, or any other flower. The error, or strange jumble

of ideas wholly foreign to the little plant, was evolved from Taylor’s mind.<sup>870</sup>

We meet again, in his book, with a conceit very like this, which it may be well briefly to quote, as one will serve to illustrate the other: he says,—“A small fish is also found in the Rotoaira Lake, and in the streams which gush out of the sides of Tongariro, called *the fish of Hades*, and is of a buff colour and spotted [13] like a Leopard’s skin,” &c., (*loc. cit.*, p. 499.) That there is such a little fish to be found there in that small lake, I well know, having dined on them, and it is delicious eating. It is called by the Maoris, *Koaro*, and is only found in that lake in the summer season. The Maoris say, that it comes out of the watery recesses of the neighbouring mountain Tongariro, whose waters feed that lake lying at its immediate base. But here, as before, the calling it a “*fish of Hades*,”—because, forsooth! the summit of Tongariro is an active crater—a burning mountain,—is not Maori at all, but is wholly a foreign fancy! another strange aberrant one of Mr. Taylor’s; with such, however, his book abounds.

A notable instance of a similar strange and far-fetched notion arising from the same root ignorance of the true meaning of the Maori term or name, (accompanied with the dissonant English idea in the mind of the writer, or speaker, with whom “the wish was also father to the thought,”)—I find in the last volume of the “Transactions N.Z. Institute,” (XIII., p. 440,)—where it is recorded, that at a meeting of the Auckland Branch,—a Mr. Bates greatly interested them in informing them, that in the Maori tongue, “*Wai* meant water, *roto* meant lake, *motu* meant an island, and *puke* a hill,” &c., &c.; and then the President, Dr. Purchas, in the chair, said,—“The derivation of some of the Maori names was very interesting. *Rangitoto*, signified “red” or “bloody” heaven, which pointed clearly to a period when the Volcano was in active operation. The word *ranga* was usually connected with Volcanic appearances,” &c., &c.

Here, as I take it, in the President’s remarks (as well as in what followed), is an extra large amount of error,—or, rather, several errors!—

1. I doubt if ever any Maori so understood, or so used the word, or words, *Rangi toto*; the whole conception or idea is utterly foreign!

2. There are several hills known to me scattered throughout New Zealand, bearing this name, besides others, islets in the surrounding seas, which are not volcanic; but they are all rough and peaked, and more or less craggy at top, and are isolated, and generally higher than their neighbours;—e.g. four, at least, in the neighbouring county of Waipawa,—one near Tamumu, one near Takapau, one at Kairakau, and one near Black-head; one at the Mahia the N. side of Hawke’s Bay; another in North Taupo; two in the country N. of Auckland; one at Wairarapa; and the Rangitoto islets in Cook’s Straits.

3. The word “*toto*” has other meanings besides blood; one of which is, to ooze forth (as from minute leaks, and from pores of skin, rind, &c.,) to trickle down; another is, to arise in the heart or soul, to rise up within, to gush as strong feelings,—e.g. “*Katahi ka toto ake te aroha o te ngakau!*” = Then the heart-felt love arose, or, gushed upwards.

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Naturalists belonging to the French Discovery Expeditions of 50-60 years ago. Of course their orthography varies much from the far simpler one adopted in rendering the Maori tongue into writing; still it is such that I could have beneficially used in my early enquiries among the Maoris, which is more than can be said of many (so-called) Maori names more recently written, above referred to. A few of those old Maori names of Birds I will give here from Förster, as a curiosity. It will be seen that he, in many instances, adds the indefinite article (he = a) to the name of the Bird, and uses g and gh, hard for k.

English Name.	Maori name	Maori name from Förster
Sparrow-hawk	Karearea	- - - Kari-area
Owl	- - - Ruru	- - - Herooroo
Kingfisher	- - - Kotare	- - - Ghotarre
Parson-bird	- - - Tuii	- - - Toi
Bell-bird	- - - Kopara	- - - Heghòbarra
Thrush	- - - Koropio	- - - Golobieo
Fantail flycatcher	Piwakawaka	-Diggowaghwagh: Piouakauaka, Less.
Robin	- - - Toitoi	- - - Ghatoitoi
Pigeon	- - - Kereru	- - - Hagarrèro.
Plover	- - - Tuturuwatu	- Doodooroo-attoo.
Blue Heron	- - Matuku	- - Matook: Matoucou, Less.
Paradise Duck	- Putangitangi	- Pooa duggie duggie.
Duck	- - Parera	- He-Parerra.
Tern	- - Tara	- He-Talle.

867 WC: This plant was originally discovered by myself in 1838, and again in 1841, at Poverty Bay; and sent by me to Sir W. Hooker in 1842, who published it, with its Maori name, &c., in the “London Journal of Botany,” Vol. III., p. 17, in January, 1844; it was also published by myself in the “Tasmanian Journal of Natural Science,” Vol. II p. 232, in 1843.

868 WC: Loc. cit., p. 768.

869 WC: Loc. cit., p. 255.

870 WC: See a simple European error re “Hades” exposed, in “Trans. N.Z. Inst.” VOL XII, p. 122, note there; and, note, p. 6 of this paper.

4. With the ancient Maoris all blood was not only of a red colour.

5. The word *toto* was not commonly used by the old Maoris for red-colour, [14]—for which they had several proper names according to its hue; they rarely ever used “*toto*” at all in that way save figuratively.—

6. A red sky was never termed *Rangitoto* by the Maoris; they have several proper names for it, according to the time of the day, its peculiar appearance, and the intensity of its red colour.

Having made those observations by way of preliminary, I would further state, that, out of several archaic meanings pertaining to this word or phrase known to me, I should select this that follows, as being what an ancient thoughtful Maori might probably assign as originating that word or phrase; although there are others :—

With the primitive Maoris, *Rangi* (= Sky) was a personal being, their common Great Father. In their highly figurative early Myths, the Dew (*Tomai-rangi* = Drawn-downwards-from-the-sky) was his affectionate tears, dropping on his ever-parted wife *Papa* (= the Earth) beneath; and it was but a step in the same direction with them to conceive, that when he lovingly descended, seeking and grieving, and came nearer to his lost spouse, the jagged rocky hilltops, which they often saw separating the low clouds, and trickling with wet, were so through his blood; thus those ragged stony-crested hills bore the common name of *Rangitoto*,—or, the causing the blood of *Rangi* to ooze, or trickle down. Moreover the ancient name of the blue sky was *Kikorangi* = the flesh of *Rangi*.<sup>871</sup> And of this opinion it may be further said, that it is in agreement with their old *tapu* or sacred customs on meeting after separation,—crying largely with many tears, and cutting themselves to cause the blood to ooze forth and to trickle down.

Moreover, in support and further illustration of what I have just stated, I will here, give, an extract (translated) from an ancient East Coast version of the Creation and Beginning of all things, (written many years ago by an intelligent Maori *tohunga* = priest, or skilled man):—

—“After the separation of the husband and his wife, *Rangi* and *Papa* (Sky and Land,) *Rangi* = Sky, the husband was (fixed) at a great distance off (from her); then the loving head of *Rangi* began to work strongly (*ngau* = bite) towards *Papa*, and just so did the feelings of *Papa* work towards her separated husband; and they were continually affectionately lamenting their separation and each other’s absence. The lamentations of *Rangi* above descends in his copious falling tears, namely, mists, heavy rain, showers, dew, and thick wet hazy clouds ;these are given down by him as refreshment (*kai*) to her; while the usual rains are also sent down to moisten and comfort and feed *Papa* and her [15] numerous children (trees and plants) growing on her back, which she always : maternally carries without feeling the heavy load.”

For the present I make no remark on that other grave error; that “the word *ranga* was usually connected with volcanic appearances”, [which, however, I have yet to learn!]—only this, If it were so, what connection is there between *ranga*

and *rangi*? Neither on what immediately follows, just as erroneous. I can only regret that such information (*sic*) respecting the ancient Maoris should ever have been admitted within a volume of the “Transactions of the N.Z. Institute,” although not among the “Transactions” proper.

At the same time I would observe, that the study of ancient Maori names of places, plants, and animals,—with, in many instances, their metaphorical meanings, is deeply interesting, and philologically useful; but it is a difficult one and should only be prosecuted by a person very well skilled in the general Maori language, including old tribal or District dialects, (and that not merely colloquially,) as well as in their History, both legendary and real, and who, also, CAN THINK IN MAORI,—i.e. after the old Maori manner,—otherwise he would be sure to make a mess of it; for, as Schiller remarks,—“Against stupidity even the gods fight in vain.”

Having shown the error arising from the mistake made in the etymology of the name of one of our noted hills, I may also briefly mention another, and a similar case. It is well known that one of the high mountains in the N. Island, and the only active volcano in N. Zealand, is called by the Maoris *Tongariro*. On this, the Rev. R. Taylor having brought forward a few extracts from “Mariner’s Tonga Isles,” respecting the natives of Tonga, and having summed up, says,—“the identity of the Tonga natives with those of New Zealand is evident,” (!) and then he goes on, characteristically, to state, as a clencher,—“Tonga is the name given by the Maoris to the S. wind, the highest (*sic*) mountain is also honoured with the same, being called *tongariro*. *Tonga riro* simply means, Tonga which has left or departed from its old position in the Tonga islands, and gone to the South.”<sup>872</sup>

Was such a far-fetched and utterly incongruous idea as this ever before hatched? It is far more likely that the said mountain got its name from the snow often deposited by the S. wind on it, (by a figure of metonymy, so common with the Maori,)—*tonga* being also commonly used by them for biting cold, hence for snow,—the cause for the effect; and then, owing to the heat arising from the crater, the fallen snow remained but a very short time on the cone or [16] peak, and thus became *riro* = gone! So different, in this respect, from the neighbouring and higher crest, on which the snow permanently remains during many months of the year; which crest also bears the highly appropriate name of *Para-te-tai-tonga* = Dirt (or dregs) from the Southern Sea. (N.B. The term *tonga* is here again used.)

## 2. Of pure Maori names, and of their derivation, early given by the Maoris themselves to introduced European novelties.

This of itself is a highly interesting theme, as showing their genius for Nomenclature, and apt and fertile invention. Many of those names were highly expressive, particularly to the Maori people; and were most strongly shown, in (1) fitting compound words; (2) in names of things utterly different, yet resembling in form, or in their use, and so affording the idea and the name; and (3) in onomatopœia.

872 WC. “New Zealand and its inhabitants,” p 390. Moreover this idea is taken from Lang’s strange book, “On the origin of the Polynesian nation,” p. 67, (London, 1834.)— though there it is carried further and is still worse!—but then Lang knew nothing of the Maoris.

871 WC: See “Trans. N.Z. Inst.,” Vol. XIV., p. 67, note. Here, also, the peculiar name of the pink-flesh Kumara—*Wairua-a-rangi*, and its derivation, should be borne in mind.— “Trans. N.Z. I.,” XIV., p. 54, note.

Enough might easily be brought forward to fill a pretty large paper; I will, however, give a few pregnant examples, as many of them are now become obsolete, or gone out of use, for the horrid unmeaning *patois*, or gibberish broken-English!

And first, of that article on which their whole heart and soul was early set,—a gun. This was named, in its entirety, a *pu* = from the hollow cylindrical shape of its barrel; *pu* being their Maori name for the hollow and long stalks of large reeds, and for their long cylindrical wooden horns or trumpets. A musquet, and a flint and steel gun, were called a *Ngutu-parera*, (*angl.* Duck's-bill,) from the shape of its steel; a double-barrelled gun was called, a *puwaharua* = gun with two mouths; the barrel, = *Kamaka* (N.), and *powhatu* (S.)—common Maori names for stone (they not having metals); the stock, = *rapa*,—from its flatness, &c.,—this being the Maori name for the blade of a paddle, the thin flat carved part of the upright stern of a war-canoe, &c.; the lock, = *Kati*, and *Katipu*,—this word being used for a catch, fastener, latch, &c.; to be at half-cock, *Kati-tu*,—standing catch; for whole cock, = *Kati-pupuhi*,—firing-off catch; cock down, = *moe*,—at rest (*lit.* sleeping); to cock, = *Keu*,—to fix, make ready; the ramrod was called, *Okaoka*,—a reduplication from *oka*, any long sharp pointed instrument, as a fine dagger; to stab, &c.

2. Of a ship, = *Kaipuke*: seeing so much of error has long been prevalent and held, respecting the origin of this word, I shall give as briefly as I may my opinion concerning it; which I have only arrived at after a great deal of toilsome research and study, extending over a very long period. A ship was early named at the N. of the N. Island *Kaipuke* (and *Puke*, poetical), but at the S. of the same Island it was called,—*motu tawhiti* = island (from) afar, and *moutere* = floating isle, it was also called, *Pahi*; this latter word is the Tahitian term for a large canoe, ship, &c.,<sup>873</sup> and it might have beeii obtained by the Southern [17] Maoris from the Tahitian Tupaea who accompanied Cook on his first voyage to New Zealand,—or from Cook and his European party themselves, as they would be sure to use that (with them) known and accustomed term. A ship was also called *pora*, (especially by the Ngaitahu tribe on the E. Coast of the S. Island,) which name was very likely given to it on account of the flatness of the ceilings below decks, as *pora* in the Maori tongue is the proper name for a flat-roofed house; also for a foreigner, &c.<sup>874</sup> Now, whence is this somewhat strange name of *Kaipuke* derived? Observe: (1) the word itself, though pure Maori, is not that of any other thing;—(2) the term is a compound one, *kai* and *puke*;—(3) this

873 WC: It is also the term for a ship in the Hervey Islands, by dropping the h, (not used there.)—pai for pahi.

874 WC: In writing on Polynesian nomenclature I may observe, that Pora (Pola) is also the term in the Sandwich Islands for the high platform seat for chiefs between a double canoe:—in Fiji it is the name given to a war-canoe from another laud (Bola):—in Samoa, Pola is the name for plaited matting of cocoa-nut leaves, used to shui in a house;—also, as a verb, to carry flat on such a piece of matting—as a cooked pig, &c. [Here we have again in another form the Maori idea of flatness (*supra*); with the Maoris, also, a coarse kind of platted matting for floors, &c., is called *pora*.] In the Tonga isles the same word (bola) is used for the leaf of the cocoa-nut plaited for thatching and other purposes; and (bolavaka) for a similar covering for canoes,—which, I suppose, is extended horizontally over them, as was formerly the case in N.Z. I mention all this briefly, as showing the oneness of idea, root, or family connection existing between the several languages.

particle, *kai*, is in extensive use, and has very many meanings ; one is, that when prefixed to any word—noun or verb—it denotes the acting, or the possessing that peculiar power, faculty, or thing, indicated by the word to which it is joined,—and that fully, entirely, or intensively,—e.g.—

*maki*, = work, labour: *kai-mahi*, = worker, labourer.  
*hangā*, = to make, build: *kai-kanga*, = maker, builder.  
*hoe*,=a paddle, to paddle: *kai-hoe*, = paddler.  
*riri*, = anger, to be angry: *kai-riri*, = an enemy.  
*waewae*, = foot: *kai-waewae*, = footstep.  
*kaha*, = strong, strength: *kai-kaha*, = a very strong man.  
*tohutohu*, = to point out, direct: *kai-tohutohu*, = a director, overseer, manager.  
*wawao*, = to mediate: *kai-wawao* = a mediator.  
*whakamarie*, = to console, to make quiet: *kai-whakamarie*, = a consoler, a nurse.

—Another, and a, very old meaning of *kai*, as a noun, is moveable property, possessions, goods, treasures, chattels,—valuables in the estimation of the ancient Maori.

(4) The word *puke* has also several meanings, but all derived from one root:—1. a hill:—2. a heavy billow, or high surge at sea:—3. a great and sudden flood, or rise of waters in the rivers, (often *wai puke*, note this word.);—4. (fig.) for a chief:—5. for any great obstruction, moral or physical. [18]

In the very old legend of the killing of the monstrous Saurian, *Hotupuku*, it is related, that when the enormous creature emerged from its cave, the rousing cry was,—“*Ano! me he pukepuke whenua!*” = Verily! it was like a hill of earth! (N.B. It was not considered sufficient to say,—*puke*, or *pukepuke* = hill, only; but, *pukepuke whenua* = hill of earth.)<sup>875</sup> \*

Further, it is to be borne in mind, that in order to render any word in Maori doubly emphatic,—whether adjective, or noun following in construction,—such word is used out of its common position in the sentence, and instead of following the noun, is placed before it:—e.g.—

*nui pai*, = exceedingly great good:  
*nui kino*, = exceedingly great evil:  
*nui tohora*, = a very large whale:  
*nui tara*, = a fish with remarkable spiny fins:  
*nui tangata* = great multitude:  
*wai puke*, = a great hill of water;—a flood.

—So that *kai puke* may well have been intended emphatically to mean,—a floating hill possessing valuables,—property of all kinds.

And here I may also add, that at the Sandwich Islands (and other places in the Pacific), a ship is called a *motu* = island, (not unlike *puke* = hill, the main idea being the same,) through its being taken when first seen by those Islanders for an island. The old Maoris also had plenty of stories about floating and voyaging islands,—e.g. *Motutere* in the Taupo lake.

Having thus given pretty exhaustively what I believe to be the true origin of the word *Kaipuke* = ship, (which has long been a *vexata quæstio*.) I shall not enter on her various parts, for generally they bore the same names as the

875 WC: See Transactions N.Z. Institute, Vol. XI., p. 87, for this strange and complete legend translated by me.

corresponding ones in their own big built canoes; a few only of the additions I shall notice.—

A man-of-war = *k. whawhai*, or *k. whai purepo*,—lit. fighting ship, or ship possessing cannon:—

A merchantman = *k. kawe taonga*,—lit. ship carrying goods:—

A whaler = *k. patu*, or *wero tohora*,—lit. a ship for killing, or harpooning, whales:—

A passenger vessel = *k. eke*, or *k. kawe tangata*,—lit. a ship taking on board, or carrying men:—

All sailing ships, in contradistinction to steamers, = *k. maori*,<sup>877</sup>—lit. common, or usual ship:—

A 3-master = *k. rakau-toru* (N.), *k. rew-a-toru* (S.),—lit. a ship (with) 3 trees, or poles;—a ship (with) 3 heights, or high poles, understood:—[19]

Standing yards = *kurupae*,—lit. cross-beams of a large house, platform, &c.:—

A figure-head = *ihu whahapakoko*,—lit. nose, or beak, having a carved image:—

Outer stern and taffrail = *paremata*, from *pare*, an ornamental peak, frontlet, border, for the face, and *mata* the full front of the face:—

Upper deck = *paparunga*,—lit. upper boards:—

Sbrouds and ratlines, = *arakirunga*, or *arapikikirunga*,—lit. (the) climbing-way-aloft:—

To sound with the lead = *whakataatutu*,—lit. to make touch the bottom (and) stand; a most expressive and fitting word.

3. Of common working-tools,—which, as Cook and others truly said, they prized beyond everything! most of the common ones, as the axe, hammer, chisel, auger, gimlet, awl, knife, large spike nail, small nails, &c., took the names of their own similar stone and bone implements; a few others however obtained some curious and striking names as—An adze, = *kapu*,—lit. palm of the hand, sole of the foot, &c., so named from its curvature.

A small axe, hatchet, and tomahawk, *panekeneke*,—lit. strike-and-keep-moving-by-small-degrees!—a good expressive name, indicative of their manner of using it in the woods, scrub, &c., clearing before them; formerly no Maori of any rank travelled or moved about without one strung to his wrist; of this little useful instrument they were very fond.

A saw, and also a file = *kani*,—lit. to cut stone by friction, rubbing to and fro; as they cut their Greenstone, &c.

A plane, = *waru*,—lit. to scrape, cut, &c., give a smooth surface to;—as with obsidian, a sharp shell, &c.

A pinchers, = *kuku*,—lit. the big mussel shell-fish.

A grindstone, hone, &c., = *hoanga*, the common name of their own sharpening stones, of which they had several kinds; the common grindstone very often took the additional term of *huri* = to revolve.

A pick, pickaxe, = *keriwhenua*,—lit. earth digger.

A hoe, = *karaone*,—lit. to tear, roughen, pare the ground.

A spade, = *puka*, *kaheru*, *karehu*, *hapara*, &c.; this useful instrument bore several names, according to the District and sub-dialects, but its general one at the N. was *puka*. At first and for a few years this name to me was a puzzler, for I could not find out why the spade had obtained this peculiar name, (which was also the name given by the Maoris to the cultivated cabbage,) I knew of nothing Maori that also bore it. At last I heard from an old intelligent priest, that there was a tree bearing a large leaf named *puka*, and thence their name for the spade (and cabbage)! For a long time I diligently sought this plant, offering rewards for it, noone, however, had [20] seen it; at length I found one (in 1836), in a corner of Whangaruru Bay (S);—its leaves were large, 12-20 inches long, and 8-9 inches broad, oblong, plain, entire, and stout, with a long thick stem.<sup>878</sup> I never saw another plant; its home was said to be on the Poor Knight's Islets, a small group in the sea just opposite. I suspect *hapara* to be the Mori attempt at pronouncing the word shovel.

#### 4. Of articles of food.—

The Potatoe bore several names, both what may be termed general,—each one extending throughout a large district, as, *uwhi*, *parareka*, *kapana*, *riwai*, *taewa*, &c.;—and particular,—i.e. of each variety or sort, of which they had a great number, many being of their own raising. *Uwhi*, is also the name of other edible Maori roots, sometimes with a short inseparable affix, as *uwhipere* = *Gastrodia Cunninghamii*, *uwhikaho* = the yam, &c. *Parareka* = sweet mealy (substance), is a good Maori meaning name for the tubers of this plant; but all their many names for them had highly significant meanings.

Maize, = *Kopakipaki*,—from a verb to wrap up, to envelope; from its large spathaceous bracts of fruit leaves, closely clasping the fruit.

Bread, = *Taro*, from the large Taro root (*Caladium esculentum*) their bread.

Biscuit, = *Taro pakeke*,—lit. hard taro.

Turnip, = *Korau* (N.), the name of the tree-fern (*Cyathea medullaris*), whose large white pith or heart is eaten, which also the large white root of the turnip resembles in substance when cooked; at the South the name for this wild Turnip was *rearea* = greens, from its growing quickly with its large edible leaves and succulent flowering stems; *rearea* being the reduplication of the verb *rea*, to grow as vegetables, to spring.

#### 5. Sundries.—

A Horse, = *Kararehe-* or *Kuri-waha-tangata*,—lit. the man-carrying-quadruped.

Sheep, = *Pirikahu*, from its fleece, like a garment to which all things stuck.

The Horn of a sheep, cow, &c., = *Taringa pihi* (N.),—lit. budding ear; also, (S.), *Maire* = hard-wood.

876 WC: K. here throughout, means kaipuke.

877 WC: See "Trans. N.Z. I." Vol. X. p. 151, for examples of this use of the word.

878 WC: Meryta Sinclairii, Hand-book N.Z. Flora.

Iron pot for cooking = *Kohua*,—so called from their own small circular earth-ovens. (Here it may be noted, that by most early European residents, not knowing this, it has been stated, that the term arose from the phrase “Go-ashore.” (!!)

A Looking glass, = *Whakaata*,—from the verb causing a shadow, reflection, likeness: formerly the Chiefs used certain sacred pools near their homes for this purpose, which bore the same name. [21]

Book, Paper, = *Pukapuka*,—the Maori name of the large white-leaved shrub, *Brachyglottis repanda*. [Here it may be observed, that the name of this shrub is pure Maori, being the reduplication and consequent lessening of the word *Puka* (the large-leaved tree, *supra*): I mention this, as by many it has been asserted, that this name was first given to the shrub by the Maoris from the English word book,—which, however, was not the case.]

Spectacles, = *Titoko-kanohi*, and *Karu-wha*,—lit. eye-upraiser (as by the spirit (*titoko*) of a canoe sail), and four-eyes.

Common green-black glass Bottle = *Pounamu*, (their greenstone), from its colour, hardness, fracture, &c.

White Glass, = *Hauhunga*,—lit. thin ice.

The wild Radish plant = *Whakaruruahu*,—lit. causing a break-wind, or shelter, for which purpose and its quick growth, they commonly used it about their huts in the North.

A Frenchman= *Wiwi*, from their own manner of saying *Oui*.  
Yes.

I regret to say, that this pure and ingenious Maori nomenclature did not last very long, it gradually died away, partly through the carelessness and the ignorance of the foreign settlers, and partly through the clear capacious memory of the Maori by which they were enabled to remember the *patois* names of common things, &c., as used by the early settlers and visitors, and in doing so not unfrequently escaped more or less of ill-words. Moreover the Maoris in the earliest days of the Colony, and for some time previous, were very prone to abandon pure Maori among themselves for the incorrect broken Maori of the settlers; for as the Maoris had considered them, *at first*, as being a superior race, they largely took up their errors in common talk and pronunciation as well as in other matters; and had it not been for their obtaining a written language through the Church of England Missionaries, and also had books printed in correct Maori by them, the Maori language would have soon become irretrievably lost;—even as it is at present the loss is very great among themselves, more than most Maori scholars are aware, and it is daily becoming more contracted and corrupt.

#### PAPER II. (in continuation.)

*[Read before the Hawke's Bay Philosophical Institute, September 11th, 1882.]*

#### 3. Of the unmeaning gibberish, or broken-English words and phrases; now used by the Government and by the Colonists in their higher transactions with the Maoris.

Although this is a very important branch of my subject, and very much might be said, I shall not dwell long upon it. You

will notice, that I have purposely omitted referring to the common colloquial *patois* too often in use between [22] Colonists and the Maoris, which I not unfrequently hear in passing by them in our streets; the marvel is, how they manage to understand each other.

It is well-known that the Maori people are great talkers among themselves; indeed, formerly they had in every *pa* (town) their large *whare-korero*—house of assembly, where they would often spend their nights (and days too, in wet or cold weather, or on the arrival of visitors,) talking and debating. They also excelled in minute description of every thing new they had seen. Now the thought has often occurred to me,—would an intelligent Maori who had gone on board of Cook's ship,—or one who had in later times visited England,—be able on his return to his people to describe clearly what he had seen? and that, of course, in pure Maori words, as his people at home knew no other language; and I have felt sure that he both could and would do so. Indeed we have a pretty good proof of this at hand, in those celebrated letters written from Australia a few years ago by Major Ropata, (a leading chief of the Ngatiporou tribe at the East Cape,) who accompanied Sir Donald McLean thither. Those letters, in which he gave a running account of the many novelties he had seen there, were very long and interesting, and were published at the time in the Government Maori Serial (*Waka Maori*)—I read them with delight. The copious, fluent, flexible, and euphonious Maori language, would make any description of that kind very easy to them. Such being the case why is it that so many new words and phrases in broken-English are constantly being thrust forward in official Maori documents and papers as if they were proper Maori words? Very sure I am of three things respecting such words and phrases:—1. they are not understood by the bulk of the Maori people, if clearly by any among them:—2. they are not required and—3. the use of them is causing the sad deterioration of the noble Maori language. When a Gazette or a Proclamation, a new Act or an Advertisement, or perhaps a long Official letter, printed or written in “Official” Maori, reaches a chief, or a Maori Village, the same is read over and over by the Maoris; and, at last, some one among them explains as well as he can each of those barbarous *patois* words and phrases to the people,—and, of course, with many ekings out of his own! But why not have printed or written the same in simple and plain Maori?

It is positively refreshing to turn from such barbarism to notice what they have done in the Sandwich Islands—the little Kingdom of Hawaii. There, all such proper names of new things, including regal matters, Officers of Government, etc., are in the pure Hawaiian tongue; which, though very copious is not so to such an extent as the Maori, partly owing to its possessing only 12 letters. This, as I view it, arose from that Government being purely aboriginal, having had good skilled Officers (and Interpreters when required) from the beginning, who both well-knew and sought to keep up their Native tongue; while here, the [23] contrary has been too often the case. But it is not only the broken-English words and phrases that I see good reason to complain of, the very sentences themselves, while consisting of (say) Maori words, are so long, so involved, so utterly opposed to Maori idiom, (I might almost say Maori syntax) that I myself can rarely understand or find out their meaning; indeed I can not clearly do it, if the same is a translation of some legal or official document, without I also have that document in English to refer to. I am told, that this is mainly the fault of the Lawyers and others, who

will have their legal and official papers (abounding in long involved obsolete and tautological phraseology) literally translated, line by line, or sentence by sentence,—utterly regardless of the so-called translation being understood! or having any connected or plain meaning!! Neither is that all! for, as if it must be so, to have “Confusion more confounded,” often in the *Maori* Gazettes and other Official and legal Papers, the old Roman numerals (C.D.L.V.X.). are used, (though not to be found in the Maori alphabet, and therefore not by them understood!)—and, in addition thereto, other strange letters of the English alphabet,—merely for the purpose of marking Government Surveyors’ blocks and that, too, when purposely surveying and marking off the land of the Maoris!

## Part II.

### ON CERTAIN COLONIAL ALTERATIONS AND INNOVATIONS MADE IN THE ENGLISH AND OTHER WESTERN LANGUAGES.

#### *Of Modern Colonial changes in Nomenclature arising from innovations on old-established principles and rules in the English and the learned languages.*

In this, the last part of my subject, I would particularly bear in mind the ancient maxim which as a motto I have prefixed to this paper. A celebrated British Botanist,—who might truly be styled the Father of English Botany, and who was for many years the President of the Linnaean Society (London),<sup>879</sup> Sir J.E. Smith, says,—“It is generally agreed among mankind that names of countries, places, or things, sanctioned by general use should be sacred:——nor is it allowable to alter such names even for the better”;<sup>880</sup> and I think that you will also agree with him in that remark; and further, that old established rules and principles concerning Nomenclature in general, which are firmly upheld and followed at home in the Mother Country, and among the nations of Scientific Europe, should also be adhered to in a young Colony; at all events such should not be lightly laid aside. Just the same indeed, if not more so, as the good [24] established Customs, &c., of the Old Country; and such, if I mistake not, the practice of the Romans in founding their numerous colonies.

(1) Foremost among such (as I am inclined to view it) are the “names of places” in new countries given to them by their first Discoverers; more especially when (as Sir J.E. Smith says,) such have been also “sanctioned by general use,” then, all such “should be sacred.” Unfortunately however this very proper rule is not now observed here among us in its integrity: and although up to the present the alterations have been but slight, yet, as “the thin end of the wedge” has been inserted, I fear, unless a firm and early stand is made against it, that it will soon become of wider application and grow rapidly worse.—

Standing prominently towards us among those alterations is the name of our own Bay, Province, County, and Provincial District; which, instead of “Hawke’s Bay,”—the name publicly given to it by its illustrious Discoverer,—who sailed round its shores, and entered its name in his log, so printed it in his Voyages and Engraved it in his Maps,—is

everywhere in the scientific Colonial Publications (as the “Transactions of the N.Z. Institute,” School Geography and Maps,) altered to Hawke Bay;<sup>881</sup> and “Cook’s Strait” is altered to “Cook Strait”! Apart from every other consideration, one would have thought that the utter ridiculousness of this last-mentioned alteration would have been quite sufficient to prevent it being made or even attempted; [Cook strait! Cook crooked!!] especially as in a few other cases the authors of these alterations seem to have seen the impropriety of such changes, and so left them unaltered,—as in “Cook’s Tooth,” (the conical peak at Porangahau, although merely a local and settler’s name,) this they have *not* altered to “Cook Tooth”! and so “Young Nick’s Head,” in Poverty Bay, this remains unaltered. The name of the celebrated “Cook’s Well” in Tolaga Bay, would certainly be shorn of a large portion of its pristine glory and charm, and at the same time convey a widely different meaning to both ear and eye, if barbarously altered to “Cook Well”! although such an alteration would be wholly in keeping with, and not a whit more ridiculous than, *Cook Strait*!

Other notable places in New Zealand, named by Cook and other celebrated early Navigators and so laid down in the Government and in all Maps, have all been altered in the same manner;—as Queen Charlotte’s Sound, Tasman’s Bay, Solander’s Islands, D’Urville’s Island, Lord Auckland’s Islands, Lord Howe’s Island, Campbell’s Island, Macquarie’s Island, Stewart’s Island, &c.

It is satisfactory however to know, that both our Colonial and Home Governments, and the European, American, and Australian Scientific works, in which New Zealand and her outlying islands are prominently mentioned have not adopted it. [25]

Fortunately our conspicuous nearer islets on this E. Coast,—as Bare Island, Portland Island, White Island, Flat Island, the Mayor, &c.,—were not named after any person; and therefore their names were not given to them in the possessive case by their Discoverer, according to the well-established and ancient custom; and we also know why they were so named; *Bare Island*, “on account of its desolate appearance,” and *White Island*, owing to its whiteness (as when *first* seen through a fog,—or, more likely, the vapours, and steam and smoke arising from its burning craters,—of which, however, Cook knew nothing). But supposing that two of those Islands had been named by Capt. Cook after some officers in his ship, whose names were White and Bare, (as the neighbouring islets in Tolaga Bay, Sporing’s, and Parkinson’s were named,) and were now altered, according to this new-fangled mode,—who could ever know why they were so named? as the great distinguishing difference would have been eliminated. To me there is great disagreement between White island and White’s Island, White Bay and White’s Bay,<sup>882</sup> Bare Island and Bare’s Island, Flat Island, and Flat’s Island, Green Island and Green’s Island, Low Island and Low’s Island, &c.;—and more,—that great and correct difference is plainly shown at first sight, even to a tyro in geography or voyaging.

In my opinion, the alteration in the name of our Bay partakes much of the dubious or ambiguous character I have just mentioned; for as “Hawke’s Bay,” a stranger would

879 WC: It is not generally known, that Sir J.E. Smith purchased the whole of the Museum, Library, and Papers of Linnæus, and made a present of them to the Linnaean Society, London.

880 WC: “Introduction to Botany,” 7th ed., p. 192.

881 WC: And in the School Book the children are expressly told, that “Capt. Cook named it Hawke Bay.” (p. 75.)

882 Where the Cook’s Strait cable is landed on the S. side.

know it at a glance or on first hearing that it was named after some *person* of that name; but as "Hawke Bay," he would be led to suppose that it got this name from its Hawks; especially if he happened to know of the organized destruction of that bird carried on here so ruthlessly during late years, (and that notwithstanding the unphonetic e at the end of the word,)—for such is also the rule with Seamen and Navigators, e.g. Whale Bay, Fish Bay, Seal Bay, Duck Cove, Cormorant Cove, Gull Rook, Gannet Island, &c., &c.

All over the known world from the earliest times, such rule of Nomenclature has been invariably followed by the Navigators and Discoverers of all civilized Nations; the Maps of all parts of the World, and particularly the Sea-charts, have ever abounded with such names; and their number is daily increasing. In the latest Scientific Voyages the same old rule has been observed; indeed in very many instances it could not well be otherwise, for to alter those personal names in their bestowal (after the manner that similar ones have been pragmatically altered here in New Zealand) would render them ridiculous.

Moreover I feel pretty certain, that our neighbouring Australian Colonies would never allow of any such liberty being taken with some of their principal and long-established names, as Queensland, King George's Sound, &c. Here, too, in this last name, (as I have before observed with reference to Cook Strait, [26] Cook Well, &c.,) there would be a most awkward and ambiguous play upon words; for King George's Sound having been named after our present Queen's grandfather George III,—who, in his latter years, was afflicted at intervals with insanity,—the altered name might (and it no doubt would by some) be attributed to the improved state of his mind, as opposed to that of being unsound or madness!

Following this new rule out to its logical conclusion, we should also drop the terminal *s*, and call our Hawke's Bay Churches—St. John Church, St. Paul Church, St. Mary Church, St. Andrew Church, &c., &c.; but here, perhaps, it may be said,—“Oh! but those buildings are to be exempt because they were dedicated to certain persons.” “True,” I would reply, “but so were our Bays, and Isles, and Straits, and Sounds, and Capes; these were all publicly dedicated to bear the names of *persons* given to them; which names are also likely to continue theirs, long after those given to many of our wooden buildings are forgotten, and their present sites occupied by other names.” -

And here I may call your attention to an additional fact, that the names of a few towns both N. and S. of us are still retained in the possessive case by those modern Innovators, after the good old-established custom,—as St. Bathan's, St. Andrew's, &c. Of course it would sound strangely and ambiguously to an English ear, to say (for instance), “I am going to St. Andrew”! but why a town should retain the terminal *s*, and not a bay or an island, a cape or a strait, is beyond my comprehension, and smacks of pedantry.—

Therefore, on these seven following grounds, I am opposed to this modern homespun alteration, viz.—

1. Long established and world-wide custom.
2. Honour and Memory of the Discoverer and Namer: also, of the Person whose Name was bestowed.
3. Desecration.
4. So printed in all European and American Books, and so laid down in all Maps and Charts.

5. Grammatically.

6. Euphony.

7. Clearness of meaning,—at first sight or hearing.

And I both hope and venture to believe, that, such a strange new and unauthorized attempt to alter our old and prized National Nomenclature will neither be sanctioned nor perpetuated in the Colony.

Since writing the last paragraph I find, that the settlers at Glendermid in the Province of Otago, have actually petitioned Parliament to grant them the restoration of the old and original name of their place Sawyer's Bay, which it appears had been taken away from that locality; and Parliament has properly granted the prayer of their petition. [27]

But far above all others in this Colony, the Settlers of Hawke's Bay (and the Members of the Hawke's Bay Institute) should see to their District and Institutions ever retaining its original name in its entirety. For of all the more modern Provinces, Districts, and Counties, into which this Colony has been cut up and named,—HAWKE'S BAY is the only one that bears the name given to it by its illustrious discoverer Capt. Cook; who, also, had sailed leisurely around its shores and had anchored within it.

(2) The disuse of a capital letter in the specific name of a plant or animal, when the same is named after any person.

The rule for invariably using a capital letter when a species is named after any Botanist, or person, is both an old and a good one. All our great Botanical and Zoological Masters and predecessors, from Linnæus downwards, have ever observed it, and laid down strict rules for the carrying it out. And not only so, but also in the case of the specific name being derived from any other genus which it resembles, or with which it was formerly classed, (as *Symphyogyna Hymenophyllum*, *Polypodium Grammitidis*,)—or from the name of the place<sup>883</sup> where it was originally found, (as *Gnaphalium Keriere*, *Lecidea Domingensis*, *Hymenophyllum Tunbridgense*,)—or being the common vulgar name of it, (as *Podocarpus Totara*, *Nesodaphne Tawa*). Sir J.B. Smith says,—“In such a case the specific name stands as a substantive retaining its own gender and termination, and *must begin with a capital letter; which last circumstance should be particularly observed if a species is called after any botanist, &c*' (*loc. cit.*, p. 191.) Dr. Lindley, and Sir W. Hooker have also laid down the same rule; indeed all European botanists have ever followed it, and that not only in the past generation but also in all their modern works; e.g.—Sir J. Hooker's Antarctic, New Zealand, and Tasmanian Floras, and Hand-Book N.Z. Flora; Sir W. Hooker's Species Filicum; Baker's Synopsis Filicum; in the latest complete work to hand, Bentham's Flora Australiensis; and in all the Linnæan Society's Transactions. Indeed the rule is, and has ever been, so universal, that I never remember once seeing its omission in any scientific work, whether in Latin, English, French, German, &c. I regret, however, to say, that its constant omission is to be found in our Colonial printed works including the “Transactions of the N.Z. Institute,”—although in this last it was not in the earliest volumes.

<sup>883</sup> WC: “But names derived from particular countries or districts are liable to much exception, few plants being sufficiently local to justify their use.” (Sir J.E. Smith, l.c., p.191.)

I have said, above, it is a *good* rule;—that is, a useful one, a help and aid, and the cause of being a great saving of time in running over an index for a species so named, especially if the genus is a large one, (as I practically know,) for the eye catches the capital letter immediately;—and then it is also a great help in another way, viz., that a naturalist (old or young) knows *at once* that the [28] specific name is derived from the proper name of some person or place, and therefore its meaning, however strange or uncouth, is not to be sought for in any Greek or Latin Dictionary.

(3) Having said thus much respecting the modern Colonial practice followed in the beginning of some new specific names, I would also make a remark on their endings: all those so named here in the Colony by their several describers bear the termination of the genitive singular,—*ii*; now this, according to the good old rules is also incorrect,—in part at least. (*a.*) If a plant or animal is so specifically named after its discoverer, then such a practice is (so far) correct; but (*b.*) if after only a describer or writer on it, then the termination should be a single *i*; but (*c.*) if the specific name is only given in compliment (as it very often is), it should be rendered in an adjective form, with the terminations, *anus*, *-a*, *um*.<sup>884</sup>

(4) Another remark I would also make under this head is,—on the great benefit to science arising from the giving of suitable generic and specific names.—I have said both generic and specific,—but perhaps it is more with the latter that we at present have to do. Nevertheless it is well worthy of notice, or rather of some study, to consider the thoughtful well-chosen generic names given by their early discoverers to many of our New Zealand plants. By way of example I will mention a few of them, and as they are usually compounded of two Greek words I will also give their meanings in English, for the benefit of the juvenile portion of my audience. And you will see, that their names are generally highly descriptive of the appearance, use, or property of the plant itself; much indeed after the common names at Home of many of our own British plants, derived from our forefathers.

*Aciphylla* = needle-pointed-leaf.

*Astelia* = without-stem-or-trunk: (as this plant is, perched, like the big nests of crows, high up on the branches of tall trees).

*Alseuosmia* = sweet-odour-of-forests: (from its fragrant flowers).

*Brachyglossis* = short-throat (flower).

*Capodetus* = ringed-fruit.

*Coprosma* = stinking-smell (which the whole plant has).

*Caspedia* = tassel-formed (flower).

*Dicera* = two-horned (from its anther).

*Dichondra* = two-grains (from its seeds).

*Drimys* = pungent, biting, to the taste; which this plant wholly is.

884 WC: I may add, in a note, that I have always endeavoured to follow this rule, which has also been closely observed in the Flora N.Z. and by others: e.g. *Hymenophyllum Frankliniarum*, *Asplenium Hookerianum*, *Clematis Parkinsoniana*, &c.—

*Geniostoma* = woolly, or bearded, mouth (its flower within).

*Leptospermum* = slender-seed. [29]

*Melicytus* = honey-in-cavities (in its anthers).

*Metrasideros* = iron-heart (from its hard wood).

*Microtis* = little-ears (from shape of its many small flowers).

*Phormium* = the ancient name of a plant used in plaiting and weaving: our N.Z. Flax.

*Rhipogonum* = jointed-whip-lash (the Supplejack).

*Thelymitra* = hooded-lady (from its flower).

Sir J.E. Smith observes very truly,—“Nomenclature is no less essential a branch of methodical science than characteristic definitions; for, unless some fixed laws, or, in other words, good sense and perspicuity be attended to in this department, great confusion and uncertainty must ensue.” And again:—“Excellent Greek or Latin names are such as indicate some striking peculiarity in the genus; as *Glycyrrhiza*, *Amaranthus*, *Helianthus*, *Hemerocallis*, &c.<sup>885</sup> such as mark the botanical character of the genus, when they can be obtained for a nondescript plant, are peculiarly desirable.——The generic name being fixed, the specific one is next to be considered; these should be formed on similar principles to the generic ones.” (*loc. cit.*, pp. 186-190.) Linnæus, also, lays down as a rule, that,—“Genuine specific distinctions constitute the perfection of natural science.” And when this is also further shown, either wholly or in part, in the appropriate specific name, much information is obtained at the first glance, and the gain is great indeed! Some of our New Zealand plants bear truly delightful specific names, so full of true meaning, given them by their original describers; as, *Phormium tenax* (tough-tying-up P.), *Dichondra repens* (creeping D.), *Areca sapida* (good-tasted A.), *Urtica ferox* (fierce-stinging U.), *Aciphylla squarrosa* (sticking-out-all-round A.), *Cyathea medullaris* (marrow-hearted C.), *Cyathea dealbata* (white, or silvery-leaved C.), *Pteris esculenta* (edible P.), *Pteris scaberula* (roughish P.), *Asplenium bulbiferum* (little-bulb-bearing A.), *Myrtus bullata* (blistered-leaf M.), *Melicope ternata* (three-lobed-leaf M.). *Melicytus ramiflorus* (branch-flower-bearing M.), *Leptospermum scoparium* (broom-like L.), *Parietaria debilis* (weak P.), *Trichomanes reniforme* (kidney-shaped T.), *Hymenophyllum nitens* (shining H.), *Hymenophyllum dilatatum* (broad-and-flat H.), &c. And here I may further observe, speaking from experience, that such genuinely descriptive names were of no small service to me, when in my novitiate in N Z. (nearly 50 years ago,) among a little known and new Flora, and with very few scientific books concerning them and those few written in Latin. Such highly suitable names are trebly pleasing, (if I may so speak,) to the working botanist, to the tyro, to the scholar, and to the outside general lover of Nature; and to all four pleasing alike,—as really communicating some knowledge of the plant through its name. [30]

Here I may be permitted to relate a keen observation bearing on this particular point which I once heard from the late Bishop of New Zealand, Dr. Selwyn, in 1845; the Bishop had been looking over my MS. list of the then

885 WC: In English thus:—Sweet-root (Liquorice), Everlasting-flower, Sun-flower, Beauty-of-a-day (Day-lily).

known N.Z. plants, (which I had compiled out of the botanical works of several authors, with my own few additions,)—his object being to obtain the names of some of the more noted (timber trees especially) for his Church Almanac,—when his eye caught *Phormium tenax*, *Urtica ferox*, and *Pteris esculenta*. “Now this,” said the Bishop, reading those names,—“this is what I like to see; this is easily understood, and is serviceable; were such a rule as this more observed by Botanists, the science would escape the opprobrium of being termed ‘*A dry List of Izard Names.*’”—

(5) I would yet offer a few remarks on what I cannot but consider another somewhat objectionable mode, which I fear is growing among us :—viz. the adopting of barbarous words for new genera and species; and, also, the too frequent giving of the proper names of persons to new species. Here, however, I would clearly state, *in limine*,—that it is the undoubted right of the describer of any new species to give it what name he may please; nevertheless, there are certain good old rules respecting this which have generally been adhered to by Botanists (masters in the Science), and which I cannot but think it would be well to bear in mind.—“*Moribus antiquis stat Roma.*”<sup>886</sup>

The old established scientific canons of Linnæus hold good here also:—Sir J.B. Smith, Dr. Lindley, Sir W. Hooker, and many others with them, our Botanical Masters and Fathers, have assiduously taught and upheld them. Linnæus says,—“Generic names that express the essential character or habit of a plant are the best of all.” (*can. 28.*) “Generic names derived from barbarous languages ought on no account to be admitted.” (*can. 7.*) “No generic names can be admitted, except such as are derived from either the Greek or Latin languages.” (*can. 16.*) But here, on these two canons, 7 and 16, Dr. Lindley remarks,—“That it is far better to convert the names by which plants are known in countries called barbarous, into, scientific generic names, by adding a Latin termination to them. The advantage of this practice to travellers is known to be very great, as it puts them in possession of a certain part of the language of the country in which the plants are found.”—And with him I fully agree; but then the barbarous (or, say, *Maori*) name so given to the plant, must be the real distinctive and well-known name of that particular plant. What I object to, is the using of any other barbarous name,—or the mis-spelling of the proper barbarous name, and so making it ludicrous or worse!<sup>887</sup> or the using of the barbarous name of a class or-family,—for a genus or particular species.

And then the so frequently bestowing the proper name of any and every [31] person who may happen to stumble on, or obtain, or merely send, a plant or a shell, to some one of our many modern Botanists and Naturalists: almost every other new thing now-a-days is thus named! Of course it is an easy and a pleasing mode of business, both to the describer and to the finder; but it is scarcely the legitimate, or the wise, one. I have already, some five years ago, called your attention to the very different mode pursued by the early and real Botanists who visited New Zealand. They were skilled men, who had served their apprenticeship (so to speak) to the business, and they upheld the useful and scientific Linnæan canons in their integrity. Hundreds of new plants were named by the two Forsters (father and son), Banks, Cook, Solander, Sparmann and others, in this and in

other lands during their long voyages of discovery, yet a very small number (less than 3 per cent.) bore in their specific names those of their finders, or their friends. Even the name of that devoted lover of Botany, Sydney Parkinson,—Sir Joseph Banks’ skilled botanical artist, who drew so many of their flowers and fruits, and that too so wonderfully well, and coloured from Nature,—his name was throughout omitted!<sup>888</sup> and so was also the name of their scientific collaborator Dr. Sparmann.

Another of the Linnæan canons runs thus:—“Names ought not to be misapplied to gaining the goodwill or favour of saints, or persons celebrated in other Sciences; they are the only reward that the *Botanist* can expect, and ARE INTENDED FOR HIM ALONE.” (*can. 21.*) And Sir J.E. Smith observes,—“In all ages it has been customary to dedicate certain plants to the honour of distinguished persons. The scientific botanists of modern times have adopted the same mode of preserving the memory of benefactors to their science; and though the honour may have been sometimes extended too far, that is no argument for its total abrogation.” And then referring to a genus which had been named *Bonapartea*, he says,—“this can possibly be admitted only in honour of the divorced Empress, and not of her former consort, who had no botanical pretensions.”<sup>889</sup> (*loc cit.*, p. 188.) But even beyond this the careless naming of species is now carried; hence so many new species of late years found in New Zealand, bear the strange and barbarous specific names of —*maori*, —*maoriana*, —*maoricum*, —*maoricus*, —*maoriella*, —*maorinus*, —*maorinum*, —*maorium*, &c., &c. And to these, I think, should be also added, the following, —*dunedensis*, —*rakaiensis*, —*temukensis*, —*hokitense*, —*otagensis*, —*manitoto*, &c. The late President of the Linnæan Society very truly and discreetly remarks (on this particular portion of my subject):—“Names which, express the *local situations* of different species are excellent, such as *Melampyrum arvense*, *pratense*, *nemorosum*, and *sylvaticum*, *Carex arenaria*, *uliginosa* and *sylvatica*,<sup>890</sup> &c.,’ &c. [32] But names derived from particular countries or districts are liable to much exception, few plants being sufficiently local to justify their use. Thus *Ligusticum* (*Physospermum*, Brit. Fl.) *Cornubiense* is found, not only in Cornwall, but in Portugal, Italy, and Greece; *Schwenckia Americana* grows in Guinea as well as in South America. Such, therefore, though suffered to remain on the authority of Linnæus, will seldom or never be imitated by any judicious writer.” (*loc. cit.*, p. 188.) Fortunately for us, until lately, we have had very few indeed of our endemic plants so named, (just a couple, *Gnaphalium Keriense*, and *Isolepis Aucklandica*,) though we also had the unfortunately-named *Hymenophyllum Tunbridge* (*Tunbridge* (which seems to be ubiquitous)), *Hypnum Sandwichense*, and one or two others.

Not a few of those modern names so readily bestowed, serve painfully to remind me of what many of our Surveyors and Gold and Gum Diggers, and other pioneers in the forest and wild, have often accidentally done,—given trivial unmeaning ludicrous and uncouth names to halting stations and camping-places, little deeming that such would remain; which afterwards, however, became the common

888 WC: See “Trans. N.Z. Inst.” Vol. X., p. 109 Vol. XII., p. 365.

889 WC: Written, too, at a time when Napoleon I was in all his glory! How different now!!

890 WC: In English thus:—meadow, field, wood, and forest, *Melampyrum*, and sand, marsh, and wood *Carex*.

886 Rome stands on ancient mores. Ennius.

887 WC: See page 12 for an example in *Discaria Toumatou*.

name of the place! to the disgust of those who followed and settled there. But in these cases, happily, such names, thoughtlessly given, both can be and are altered; this, however, can not be done in the naming of any plant or other natural species, and therefore more care should be taken by the describer in the naming it.

As I was one of those who, in the House of Representatives in 1861, spoke and gave my vote in support of a sum of money being granted for the compiling and printing of the "Hand-Book of the New Zealand Flora," (at a time, too, when the Colony was both poor and at war,)—and as I also assisted the eminent author Sir J.D. Hooker in his arduous task of publishing it,—I may be permitted to observe,—that while its publication has been of service and done good to this young colony, it has (like all other good things) not been unmixed with evil; for through it some in New Zealand have set themselves up for Botanists!—And, as may readily be supposed, our Cryptogamic Flora in particular—the chief botanical glory of New Zealand!—has suffered the most in its nomenclature, and that in the pleasing Order of Ferns, those universal favourites! The other great natural Cryptogamic Orders—*Musci*, *Hepaticæ*, *Lichenes*, *Fungi*, and *Algæ*, have hitherto escaped; being, fortunately, far too difficult a study, and TOO UNFRUITFUL OF PAY! Some, no doubt, think it a very easy matter to name our N.Z. Ferns,—especially if provided with the "Hand-Book" and with Baker's "Synopsis Filicum." I have seen several collections of Ferns, made both N. and S. of us, and not a few prettily and fancifully got up for sale by professed Fern-collectors, (though too often composed of bits and scraps,) with printed labels, &c., &c., but I have never yet seen one such manufactured [33] collection correctly named throughout; even the very names of the Ferns are often mis-spelt on the printed labels!

It should not be forgotten, that the useful "Hand-Book" is only a kind of *Clavis*, or Key, to New Zealand plants then known, (1864,) and to larger botanical works in which they were more fully described. Sir J.D. Hooker warns his readers, and that frequently, against attempting great and new things, without at all events, much study of those larger works and microscopical research, and a careful comparison of species with species,—these of New Zealand with those of foreign countries. For my own part I have long firmly believed with Mr. John Smith, one of our best living Pteridologists, (who was for more than 40 years the Curator of the Garden Ferns at Kew under Sir W.J. Hooker,)—in the absolute necessity of examining and comparing the living Ferns themselves in their various stages of growth, and not merely dried herbarium specimens; which are too often mere scraps or portions of fronds, or, not infrequently, selected without judgement.

A remark of Mr. J. Smith's bearing on this may be here properly adduced and usefully studied; he says, (in writing on the latest general work on Ferns, the "Synopsis Filicum" above mentioned,)—"As might be expected from a new writer on Ferns, many changes have been made in the nomenclature and synoyms, as given in the "Species Filicum," (the immediately preceding and larger work by Sir W.J. Hooker,)—"and, judging from Mr. Baker's view, it would appear that many plants originally described as species, which successive authors have acknowledged to be distinct, are, nevertheless, in many cases regarded as synoyms; thus Ferns long accepted by previous pteridologists cease to be so. When I say long accepted, I go upon the evidence of Link, Kunze, Schott, Mettenius, and

myself, who have had for many years under their observation *living* examples of species all well recognised as being different from one another by some important characters seen only in the living state; but Mr. Baker, with herbarium specimens, makes no scruple of lumping many of such under one specific name. For instance, under

*Polypodium lycopodioides*, there are no less than twenty-two synonyms, and under *P. brasiliensis* eighteen. These examples are additional proof of what has been already said of the confusion of the nomenclature of Ferns.—

Notwithstanding, there can be no doubt but that the "Species Filicum" and "Synopsis" are highly valuable to students of Ferns, possessing herbaria or cultivated collections, as also to travellers abroad." — *Historia Filicum*, by J. Smith, 1875; pp. 58, 59.

In conclusion, I cannot do better than once more to quote from that great and good English Botanist—the Father of English Botany—Sir J.E. Smith:—

—“We are no longer in the infancy of Science, in which its utility, not having been proved, might be doubted, nor is it for this that I contend. I have [34] often alluded to its benefits as a mental exercise, nor can any study exceed in raising curiosity, gratifying a taste for beauty and ingenuity of contrivance, or sharpening the powers of discrimination. What then can be better adapted for young persons? The chief use of a great part of our education is no other than what I have just mentioned. The languages and the mathematics, however valuable in themselves when acquired, are even more so as they train the youthful mind to thought and observation.”

“To those whose minds and understandings are already formed, this study may be recommended, independently of all other considerations, as a rich source of innocent pleasure. Some people are ever inquiring “what is the use” of any particular plant, by which they mean “what food or physic, or what materials for the painter or dyer does it afford?” They look on a beautiful flowery meadow with admiration, only in proportion as it affords nauseous drugs or salves. Others consider a botanist with respect only as he may be able to teach them profitable improvement in tanning, or dyeing, by which they may quickly grow rich, and be then perhaps no longer of any use to mankind or themselves. They would permit their children to study Botany, only because it might possibly lead to professorships, or other lucrative preferment.”

“These views are not blameable, but they are not the sole end of human existence. Is it not desirable to call the soul from the feverish agitation of worldly pursuits, to the contemplation of Divine Wisdom in the beautiful economy of Nature? Is it not a privilege to walk with God in the garden of Creation, and hold converse with his Providence? If such elevated feelings do not lead to the study of Nature, it cannot far be pursued without rewarding the student by exciting them.”

Rousseau, a great judge of the human heart and observer of human manners, has remarked, that “when science is transplanted from the mountains and woods into cities and worldly society, it loses its genuine charms, and becomes a source of envy, jealousy and rivalry.” This is still more true if it be cultivated *as a mere source of emolument*. But the man who loves botany for its own sake knows no such feelings, nor is he dependent for happiness on situations or scenes that favour their growth. He would find himself neither solitary nor desolate, had he no other companion

than a "mountain daisy," that "modest crimson-tipped flower," so sweetly sung by one of Nature's own poets. The humblest weed or moss will ever afford him something to examine or to illustrate, and a great deal to admire. Introduce him to the magnificence of a tropical forest, the enamelled meadows of the Alps, or the wonders of New Holland, and his thoughts will not dwell much upon riches or literary honours, things that

"Play round the head, but come not near the heart."—[35]

I have made this long and pleasing extract from the talented and loving Author's preface to the 6th edition of his "Introduction to Botany," published nearly 60 years back, (which was also, subsequently, after his decease, republished with very high approval by the late Sir W.J. Hooker,)—and I have done so for two chief reasons:—(1) for the benefit of those who may hear (or read.) this paper, particularly the rising generation:—(2) to show the men of the closing half of this restless never-contented money-hungering century, what a great and good Englishman (not a cleric) once thought and wrote of common earthly riches! [36]

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### PAPER III.

#### A FEW REMARKS ON THE HACKNEYED QUOTATION OF "MACAULAY'S NEW ZEALANDER,"

*[Read before the Hawke's Bay Philosophical Institute,  
12th June, 1882.]*

For some considerable time I have been desirous of bringing this subject before you,—New Zealand being now our Country and our home; and should have certainly done so during past Winter Sessions of our Institute, but for two reasons :—(1) that I had already written pretty fully about it, some 15 years ago in the "New Zealander," Auckland paper;<sup>891</sup> and (2) that I had hoped the quoting of it would die out, or that, at all events, some modern authors and writers and public speakers (especially here in New Zealand) would just give themselves the trouble to enquire whether Macaulay was really the author of that saying,—whether the simile originated with him.

I should however, honestly confess, that I am again reminded (as it were) to bring this subject before you, through my having lately read Professor Hutton's opening *Address* for 1882, given at the Canterbury College, University of New Zealand, in which Professor Hutton says,—"As individuals have a limited period of existence, so also must it be with nations. This is the leading idea in Lord Macaulay's celebrated New Zealander sitting on the ruins of London Bridge."—

My task on this occasion will be a comparatively easy one, through my having several years ago thoroughly worked the subject out; (and, as I have said, published it in one of our first-class Colonial Newspapers;) I purpose showing, 1.—that the "idea" (to use Professor Hutton's term) is of (at least) twofold origin,—1. general; 2. particular; and 2.—that both were used by authors who preceded Macaulay; whose works, without doubt, Macaulay must have seen and even

read; and that from one or more of them Macaulay gathered the striking and famed similes, more than once used by him in his Works.

The radical idea seems to have been rather a favourite one with Macaulay, [37] as I find he has used it on several occasions; three of them I will quote from his Works written at different periods of his life,—viz., in 1824, in 1829, and in 1845,—a period extending over 16 years.<sup>892</sup> His predilection for it may, however, (in part, at least,) be owing to the great noise which it made in the daily literary world at the time of its first appearing in his writings (in 1824), for we read in the preface to his *Miscellaneous Writings*, that "the passage in question was at one time the subject of allusion, two or three times a week, in speeches and leading articles." And yet it does not appear that any one at that time, or, as far as I know, since, has brought forward the originator.

The first of those three passages (and the one I have just particularly alluded to,) occurs in Macaulay's Review of *Mitford's History of Greece*, (written in 1824,) where, writing of "the gift of Athens to man," (he goes on to say,)—"although her freedom and her power have for more than twenty centuries been annihilated, her intellectual Empire is imperishable. And when those who have rivalled her greatness shall have shared her fate; when civilization and knowledge shall have fixed their abode in distant continents; when the sceptre shall have passed away from England; when, perhaps, travellers from distant regions shall in vain labour to decipher on some mouldering pedestal the name of our proudest chief; shall hear savage hymns chaunted to some misshappen idol over the ruined dome of our proudest temple; and shall see a single naked fisherman wash his nets in the river of the ten thousand masts; her influence and her glory will still survive—fresh in eternal youth,—immortal."

Here we have the idea in its inchoate, more general and less defined state; (but of this, too, anon).

The second occurs in his Review of *Mill's Essay on Government*, (written in 1829,) here Macaulay says:—"The civilised part of the world has now nothing to fear from the hostility of savage nations."—But is it possible that in the bosom of civilization itself may be engendered the malady which shall destroy it?—Is it possible that, in two or three hundred years, a few lean half-naked fishermen may divide with owls and foxes the ruins of the greatest European cities,—may wash their nets amidst the relics of her gigantic docks, and build their huts out of the capitals of her stately cathedrals."—

Here, also, we have the same idea, but still inceptive, still in the rough.

The third is the more particular, the worked-up and finished simile of the artistic New Zealander, of which the literary world has heard so much. This occurs in his Review of *Ranke's History of the Popes*, (written in 1840,)—where Macaulay, writing of the Roman-Catholic Church, says,—"She (the Roman-Catholic Church) may still exist in undiminished vigour, when some traveller from New Zealand shall, in the midst of a vast solitude, take his [38] stand on a broken arch of London Bridge to sketch the ruins of St. Pauls."

891 The 26 March 1864 *New Zealander* letter was reprinted in the *Hawke's Bay Times* of 13 May 1864, and is reproduced in *Give your thoughts life* in this series.

892 Lord Macaulay was born in 1800, died in 1859.

I have found this simile, or idea,—both in its rough and in its more finished state,—in no less than five authors of note who preceded Macaulay; four of whom are English, and one French.

The first is Horace Walpole, the eminent *virtuoso* of “Strawberry Hill” notoriety, and the author of the celebrated “Letters.” In a published letter of Walpole’s to Mason, written in 1744, he says,—“At last some curious traveller from Lima, will visit England, and give a description of the ruins of St. Paul’s, like the Editions of Baalbec and Palmyra.” [Here it may be noticed, that Macauley wrote a slashingly trenchant Review of Walpole’s Letters, in 1833.]

The second is by the equally celebrated Frenchman Volney,—who travelled in the East (Egypt and Syria) in 1784, and wrote his able work, called the *Ruins, or a Survey of the Revolutions of Empires*; therein he gives us his “Meditations,” written at the time, while musing among the ruins of those famed and great ancient cities. And be goes on to say:—

—“What are become of so many productions of the hand of man? Where are those ramparts of Nineveh, those walls of Babylon, those palaces of Persepolis, those temples of Balbec and of Jerusalem? Where are those fleets of Tyre, those dock-yards of Arad, those workshops of Sidon, and that multitude of mariners, pilots, merchants, and soldiers? Where those husbandmen, those harvests, that picture of animated nature, of which the Earth seemed proud? Alas! I have traversed this desolate country, I have visited the places that were the theatre of so much splendour, and I have beheld nothing but solitude and desertion!—Thus reflecting, that if the places before me had once exhibited this animated picture; who, said I to myself, can assure me that the present desolation will not one day be the lot of our own country? Who knows but that hereafter some traveller like myself will sit down upon the banks of the Seine, the Thames, or the Zuyder Zee, where now, in the tumult of enjoyment, the heart and the eyes are too slow to take in the multitude of sensations; who knows but he will sit down solitary amid silent ruins, and weep a people inurned, and their greatness changed into an empty name?”—

The third is by one of our British poets, Henry Kirke White;<sup>893</sup> who, in his poem entitled Time, says:—

“Where now is Britain? where her laurell’d names,  
Her palaces and halls? Dash’d in the dust.  
—Oe’r her marts,  
Her crowded ports, brood Silence; and the cry  
Of the lone curlew, and the pensive dash  
Of distant billows, breaks alone the void. [39]  
Even as the savage sits upon the stone  
That marks where stood her capitol, and hears  
The bittern booming in the weeds, he shrinks  
From the dismaying solitude.”—

The fourth is by another of our celebrated British poets, Shelley,<sup>894</sup> (though not written this time in rhyme but in good English prose,) —in his Dedication to Peter Bell, Shelley says:—

—“In the firm expectation, that when London shall be an habitation of bitterns, when St. Paul’s and Westminster Abbey shall stand, shapeless and nameless ruins in the midst of an unpeopled marsh; and when the piers of

Waterloo Bridge shall become the nuclei of islets of reeds and osiers, and cast the jagged shadows of their broken arches on the solitary stream, some Transatlantic commentator will be weighing in the scales of some new and now unimagined system of criticism the respective merits of the Bells and the Fudges, and their historians.—

The fifth, and last, and strongest of all, (though doubtlessly written much earlier in time than those two last quoted,)—the one in particular wherein the very term of New Zealander is used;—is to be found in the able preface to the English 4to edition of *La Billardiere*’s celebrated *Voyage* to these seas in search of the unfortunate La Perouse; undertaken in 1791–1794; and a translation of the Work published in London in 1800.<sup>895</sup> And as this work (the large 4to edition, containing the Translator’s preface,) is scarce and little known, and probably but few if any copies here among us, I shall take the liberty of quoting the more largely from it; especially as some of the words used therein, and that more than 80 years ago, seem to be already (in part) on the way to their fulfilment, and, therefore, will prove to us, Colonists, very interesting. The writer says:—

“Having mentioned Providence, a word not very common in some of our modern Voyages, we are tempted to add a consideration which has often occurred to our minds, in contemplating the probable issue of that zeal for discovering and corresponding with distant regions, which has long animated the maritime powers of Europe. Without obtruding our own sentiments on the reader, we may be permitted to ask, whether appearances do not justify a conjecture, that the Great Arbiter of the destinies of nations may render that zeal subservient to the moral and intellectual, not to say the religious, improvement, and the consequent happiness, of our whole species? or, whether, as has hitherto generally happened, the advantages of civilisation may not, in the progress of events, be transferred from the [40] Europeans, who have but too little prized them, to those remote countries which they have been so diligently exploring? If so, the period may arrive, when New Zealand may produce her Lockes, her Newtons, and her Montesquieus; and when great nations in the immediate region of New Holland, may send their navigators, philosophers, and antiquaries, to contemplate the ruins of ancient London and Paris, and to trace the languid remains of the arts and sciences in this quarter of the globe. Who can tell, whether the rudiments of some great future empire may not already exist at Botany Bay?”—

A few more observations and I close.

First, then, I would remind you, that the writings of all those Authors from whom I have just quoted, must certainly have been well-known to Lord Macaulay, for they were among the chiefest and most notable Books of his early days; and that he was an extensive reader his works clearly show.

Second, that this last work I have quoted from, the French *Voyage* in search of the unfortunate La Perouse, was one that made a great noise throughout Europe. Not merely on account of the mysterious loss of La Perouse and his ships, and the great amount of interest it had excited; (following, too, so closely as it did, the death of the French navigator Marion and 28 of his crew at the Bay of Islands, and the killing of a whole boat’s crew of 10 men belonging to Capt. Furneaux’s ship,—which was Capt. Cook’s consort-vessel

893 H.K. White, born 1785; died, 1806.

894 Shelley, born, 1792; died (drowned), 1823.

895 WC: More properly, this French Expedition of two frigates (*Recherche* and *Esperance*), was commanded by General D’Entrecasteaux; M. J.J. Labillardiere being the Naturalist on board, who wrote the account of the Voyage.

on his second voyage to New Zealand;) but also owing to this very voyage of La Billardiere being the next great Expedition fitted out by the French Government to these seas after Capt. Cook's latest discoveries.

Hence, like those other Voyages to the South Seas and to New Zealand in particular of our celebrated English navigator Cook, the great French Voyage (including that of La Perouse as far as it was known) was a new and fresh work of surpassing interest to all Europe,<sup>896</sup> especially to Englishmen and the young of Macaulay's juvenile years;—much what some of us (elders) may remember as to how thoroughly we enjoyed the Voyages of Capt. Cook;—and therefore must also have been seen and read by Macaulay; and such being the case, it was impossible for him to overlook or forget the very striking simile of the New Zealander. [41]

In conclusion, I may say, that in the letter I wrote to the Auckland Paper, above alluded to, I had also mentioned my belief in the many plagiarisms of Lord Macaulay, as shown in not a few instances in his Works,—patent to the close and large reader; and of which I firmly believe this idea culminating in the travelling New Zealander, to be one. But, after all, it is difficult to say of a learned and comprehensive reader, having also a capacious memory,—what really constitutes a plagiarism. Be this as it may, one thing I think I have pretty clearly shown in this my paper, that that simile of the New Zealander visiting London, and sketching and meditating among her ruins, did not originate with Lord Macaulay; and, therefore, should not be continually quoted as his.<sup>897</sup>

896 WC: The narrative of the Voyage is excellently well written, it gives a pleasing account of their interview with the New Zealanders at North Cape; and of their sojourn among the hospitable Tasmanians, (indeed, it contains the best account that I know, of an early visit to that unfortunate race!)—it contains many plates of new and interesting objects; and it abounds in discoveries in many branches of Natural Science, particularly in Botany. Several of our New Zealand plants bear the honoured name of this early intrepid Naturalist. He discovered and described the Blue Gum tree (*Eucalyptus globulus*), with other species of that genus. His name is also perpetuated in his large work on the Botany of New Holland, or Australia, then an unknown Country to Europe and the civilized world (*Nova Hollandiae Plantarum Specimen*, 2 vols. 4to.)—

897 The Alexander Turnbull Library copy of this paper has a handwritten endnote by Colenso, and two pages of a letter dated 5 February 1885 from a Napier correspondent. Colenso's note reads, "Since writing the above, I have also noticed in Pope's 'Windsor Forest' the following lines:—  
‘The time shall come, when free as seas or wind,  
Unbounded Thames shall flow for all mankind,  
Whole nations enter with each swelling tide,  
And seas but join the regions they divide;  
Earth’s distant ends our glory shall behold,  
And the new world launch forth to seek the old.  
Then ships of uncouth form shall stem the tide,  
And feather’d people crowd my wealthy side;  
And naked youths and painted chiefs admire,  
Our speech, our colour, and our strange attire. 1.397.

The letter refers to Anna Laetitia Barbauld's poem 'Eighteen hundred and eleven' (1811) in which an ingenuous youth visits the ruins of London: "Mrs Barbauld's lines ... could not have escaped Macaulay, who never forgot what he had read."

### 1883 A further contribution towards making known the Botany of New Zealand.

*Transactions of the New Zealand Institute* 16: 325-363.

[Read before the Hawke's Bay Philosophical Institute, 12th November, 1883.]

IN bringing before you this evening my usual annual basket of "simples," or botanical contribution, I would beg permission to offer a few brief remarks by way of introduction and explanation. This seems almost necessary, seeing that my basket is bigger, or my paper is much longer than any of my former ones on this subject, owing to the large number of new species I have been enabled to obtain and describe.

Species, too, illustrative of many Orders of all the Botanical Classes, particularly of the Class *Cryptogamia*, and of the elegant though lowly Order *Hepaticae*; having fortunately discovered several new ones, especially of the curious and little-known genus *Sympygyna*. Of this, I have determined no less than 11 new species, which, with 2 others, formerly discovered and described by me in my recent Botanical papers read here before you, and also those 5 species described in the "Handbook of the New Zealand Flora," make no less than 18 distinct species of *Sympygyna*, indigenous to this country alone! which may now, I think, be fairly considered as the head-quarters of this genus.

According to the celebrated cryptogamic authors of the *Synopsis Hepaticarum*, only 25 species of *Sympygyna* were known to them at the date of the publication of their work (1847); of those none were European; yet the genus seems to be a widely scattered one, viz.: In N. America 2, in S. America and the West Indies 8, S. Africa, including the neighbouring isles, 6, Asia (Java) 1, Australia 4, Tasmania 2, New Zealand<sup>898</sup> 2 = 25. I have good reasons for believing that additional species will yet be found in New Zealand; indeed I have at present two others not yet determined, being in an imperfect state.

And here I may also observe that, to the elucidation of this genus in particular I devoted a very large amount of time—labour in seeking and collecting at various seasons, and close microscopical study and examination; having been also cheerfully and zealously aided by some of our members, especially Mr. A. Hamilton, Mr. D. P. Balfour, and Mr. C. P. Winkelmann, to all of whom (as well as to others) my best thanks are due. [326]

I should also inform you that several of the plants I have now described in my present paper, and also bring specimens of, to show you this evening, were not first detected by me during this past year. A few have been long known to me; others I first knew of two or three years ago, but wanted time to examine them and work them up. Of others I required better or more complete specimens, while, for a few, I am wholly indebted to my botanical friends.

Still I have been very fortunate during the past year. I have spent a much longer time in patient research in our woods,

898 WC: Two of those 5 species found in New Zealand (as given in the "Handbook") are also found in other countries, and are so classed by the authors of the Syn. Hep.; and one other (*S. sub-simplex*) was new and not known to them at the time of its publication.

and deep-secluded glens, and quiet far-off hill-tops and sides, both in winter and in summer, in frost and in heat; and nature has bounteously rewarded her patient plodding disciple and faithful follower, as she always does all such who serve her heartily and simply, and not for pecuniary gain.

Among the principal or first-class prizes with which I have been honoured, and which I wish to bring prominently to your notice, are a handsome white-flowering standard *Metrosideros*, a curious small-leaved *Panax*, a large-leaved *Tupeia*, and a fine *Fagus*; 4 Orchids (one being a new and rare *Bolbophyllum*, two others of the beautiful gem-like genus *Corysanthes*, and one a very fine and handsome *Thelymitra*); of *Liliaceæ*, a *Dianella*, and an *Astelia* (the male flower—another single specimen—of the one female flower I discovered three years ago); and a few of *Cyperaceæ*, among them a most peculiar *Carex*, having slender trailing culms more than two yards long. Of *Cryptogams* a few ferns, among them a neat little *Polypodium* and a pretty *Lindsæa*, which latter will serve to fill up a gap or natural sequence in our known species; several other curious *Hepaticæ*, besides the *Symphyogyna* already mentioned, particularly of the genera *Petalophyllum*, *Aneura*, *Fimbriaria*, and *Anthoceros*; a handsome *Lichen*, giving another distinct species to a small natural genus; and a few highly curious *Fungi*.

Specimens of all of them, both dry and in spirits, some of them being also mounted on cardboard, will be severally laid before you; and may you all have as much pleasure in going over and examining them as I have had, over and over, in the finding and gathering, examining and describing them.

#### Class I. DICOTYLEDONS.

#### ORDER IV.<sup>899</sup> VIOLARIEÆ.

##### Genus I. *Viola*, Linn.

###### *Viola peregrina*,<sup>900</sup> sp. nov.

A very small tufted perennial *herb*, its crown of leaves and flowers springing from a thick woody root having many fine and long fibres, without branches or stolons. *Leaves*, 8–12, broadly cordate-orbicular,  $\frac{1}{4}$ – $\frac{1}{2}$  inch long, glabrous, regularly and deeply crenate, obtuse and rounded at [327] apex, almost truncate at base, *petioles*  $\frac{1}{2}$ –1 inch long, channelled above and closely ciliate on the edges with 2 rows of short white erect hairs, *bracts* at base diverging, long, linear, very acuminate and acute, with a few (2–4) fine teeth or laciniations that are obtuse and knobbed. *Peduncles*,  $\frac{1}{2}$ – $\frac{1}{2}$  inches long, quadrangular, succulent, purple-striped, *bracts* linear-acuminate, acute, usually not opposite; *flowers* small, 3 lines diameter, white, occasionally one having a few narrow faint-blue stripes; the two lateral *petals* woolly inside in a small circular patch just opposite the anthers; *spur* short, gibbous; *sepals* rather large, oblong-ovate, acute, scarious at edges.

*Hab.* On dry open upland heaths between Matamau and Danneverke, Waipawa county; also, in adjoining "scrub," among *Leptospermum* and other shrubs, 1880–1883: W.C.

*Obs.* I have long known this pretty little plant, but have hitherto delayed describing it, thinking it (without close examination) to be a variety of the well-known and common species *V. cunninghamii*, and not wishing to add another species to this extensive and cosmopolitan genus. This spring, however, having again visited its habitat, and fully examined it in its fresh and living state, I am satisfied of its distinctness from *V. cunninghamii* and its other congeners. It is a very lowly plant, and although common there, and bearing a great profusion of flowers, it is scarcely perceptible among the numerous small heath plants and mosses that grow thickly with it.

#### ORDER XXVIII. MYRTACEÆ.

##### Genus 2. *Metrosideros*, Br.

###### *Metrosideros vesiculata*,<sup>901</sup> sp. nov.

*Plant* small, "a bushy shrub 2–3 feet high," of erect fastigiate growth and very leafy; *branches* densely tomentose and hairy. *Leaves* decussate, broadly elliptic or ovate-elliptic, 5 lines long, 3– $\frac{3}{2}$  lines broad, obtuse, pellucid-dotted, glabrous, coriaceous, 3-nerved, sub-revolute, petiolate, *petioles* short, stout, pubescent, paler green and sub-muricated below with small raised black spots; *young leaves* very tomentose and sub-strigose hairy below. *Flowers* sub-terminal, axillary, white, single or ternate; *peduncle* 1– $\frac{1}{2}$  lines long, stout, hairy; *pedicels* jointed, glabrous, very short. *Calyx* glabrous with a few scattered weak hairs, tube broadly campanulate, vesicular, 5-lobed; *lobes* elliptic or sub-rotund at top, persistent, margins thin and slightly ciliate. *Corolla* white, *petals* small, sessile, broadly oblong or sub-orbicular, sinuate and slightly toothed at edges, concave, crowded at centre with raised orbicular vesicles, 1-nerved, coloured in the centre (dry specimens). *Stamens* numerous, spreading, 4 lines long. *Style* very stout, simple, 6 lines long, persistent. *Capsule* sub-rotund,  $\frac{1}{2}$  lines diameter, glabrous, vesicular, rather thin, 4-loculicidal, girt below the middle. [328]

*Hab.* Hills, forests on the east coast between Wainui and Akitio rivers, "900 feet elevation;" January, 1883: Mr. Horace Baker, in lit.

*Obs. I.*—A species near to *M. perforata*, A. Richard, as described at length by him,<sup>902</sup> his specimens were also obtained from Cook Straits, but differing largely in its vesicular capsule calyx and corolla, which plain and constant characters, even in dried specimens, could never, I think, have been overlooked by Richard.

*II.*—Sir J.D. Hooker has also made but one species of the above-mentioned plant (*M. perforata*) and A. Cunningham's *M. buxifolia*: I, however, have ever believed (with A. Cunningham) their being distinct; although I have never seen specimens of Richard's (and Forster's) Southern New Zealand plant, which is, also, *not* a climber (*apud* Richard, *loc. cit.*): this "erect" character, however, does not belong to A. Cunningham's *M. buxifolia*, which is a

899 WC: The numbers in this paper attached to both Orders and Genera are those of the "Handbook of the New Zealand Flora."

900 Included in *Viola cunninghamii* Hook.f.

901 *Metrosideros perforata* (J.R.Forst. et G.Forst.) A.Rich.

902 WC: "Voyage de l'Astrolabe, Botanique," p. 334.

climbing species, and is as common in the forests here (Hawke's Bay) as it is at the north.

III.—This species, from its short bushy size, small neat leaves, and very numerous flowers, is likely to become a favourite garden shrub. Although I have never seen it living, I have received several good specimens from Mr. Baker, and they are very uniform.

#### ORDER XXXIV. ARALIACEÆ.

##### Genus 2. *Panax*, Linn.

###### *Panax microphylla*,<sup>903</sup> sp. nov.

Plant a small hard-wooded *shrub* of diffuse growth, 4–5 feet high; *branches* few, long, slender, straggling, and irregular; *branchlets* brachiate, roughish, sub-muricated with minute tubercles, and occasionally on the younger branchlets a few scattered very small linear-ovate obtuse scales. *Leaves* small, sub-membranaceous, glabrous, alternate, sometimes in pairs, scattered rather distant, compound and simple, flat, spreading, usually sub-orbicular, 4–5 lines diameter, rounded and very obtuse at apex—sometimes rhombic and apiculate, sometimes lanceolate and very small, sometimes trifoliolate on long slender petiolules, the middle leaflet being the largest, and sometimes a simple leaf having a pair of minute leaflets just below its base—the upper half of the leaf being slightly crenulate, each crenature generally bearing a small incurved sharp tooth,—the lower portion cuneate, decurrent, margins conniving, jointed to petiole with 4–6 minute linear acute stipellæ at junction, and several similar stipules at base of petiole; *colour* bright green with minute white dots on the upper surface, paler green below; *margins* coloured purple; *veins* indistinct; *petioles* purple-brown, deeply channelled, slender, glabrous, 1–2 lines long. *Fruit* axillary orbicular, about 1½ lines diameter, sub-compressed, smooth, on [329] short slender bracteolated stalks (peduncles or pedicels), having many small bracts at their bases, white or pinkish-white, with sculptured dark (black) effigurate spots or blotches, having a peculiar sunken or burnt appearance, and bearing a calycine crown of 5 teeth; *styles* 2 persistent, long, slender, divergent and recurved; sometimes 2 or 3 fruits spring together; *carpels* lunate, gibbous, flattish, rugulose without longitudinal ridges; *seed* with plain sides. *Flowers* not seen.

*Hab.* In shady open forests near Norsewood (S.), Waipawa County, 1882–3: W.C.

*Obs.*—A species having pretty close affinity with *P. anomatum*, Hook., but differing from that species in its smaller and variously shaped leaves with glabrous (not pubescent) and deeply channelled petioles—in its smaller and differently coloured fruit bearing plain-surfaced carpels and seeds—and particularly in its branches not being densely hairy ("setoso-squamulatis") as in *P. anomatum*. *P. anomatum* is also a much larger shrub; and I have never once met with it in these southern parts, nor, indeed, anywhere else besides the forests in the Waikato, where I discovered it, 1842 ("Tasmanian Journal of Natural Science," vol. ii., p. 277).

#### ORDER XXXVI. LORANTHACEÆ.

##### Genus 2. *Tupeia*, Chamisso and Schlechtendal.

###### *Tupeia undulata*,<sup>904</sup> sp. nov.

Plant a small dioecious parasitical diffuse *shrub*; *branches* long, straight, terete, jointed, 2 feet–2 feet 6 inches long, bark light greenish-grey, somewhat scurfy, not smooth; *branchlets* opposite, sub-compressed, densely covered with light-brown obtuse patent rigid sub-glandular pubescence; young *leaves* and *flowers* enclosed in dark brown scale-like bracts, 2–4 lines long, deltoid and obovate, obtuse with fimbriate margins, 3-nerved, middle nerve long, lateral ones short. *Leaves* (*male plant*) few, opposite, distant, sub-rhomboid and rhomboid-obovate, obtuse, 3 inches long, 2 inches broad; (*female plant*) *leaves* much smaller, sub-rhomboid and broadly oblong-lanceolate, 1½ inches long, ¾ inch broad, sub-membranaceous, not thick or fleshy, green, smooth, not shining, undulate, decurrent nearly to base of petiole; *petioles* short, under 2 lines long, and with midrib thickly pubescent, margins sub-sinuate, slightly scaberulous or sub-papillose (of young leaves minutely pubescent-ciliate); *veins* prominent above, veinlets anastomosing. *Flowers* terminal on short axillary branchlets, paniced; *panicles* short, dense, having, in the *female* plant especially, a sub-umbellate appearance, about 1 inch long, each containing 6–12 flowers, peduncles and pedicels pubescent, sub-panicles and pedicels bracteolate at base, bracteoles linear-ovate, about 1 line long, recurved, caducous; *lower sub-panicles* bearing 2–3, sometimes (but rarely) 4 flowers each: *male flower* on much larger [330] and more open panicles than the *fem.*, petals 4, spreading, 4 lines diameter, somewhat sub-spathulate or sub-obovate, obsoletely 1-nerved, light yellowish-green, tips sub-cucullate and slightly pubescent-ciliate; *filaments* spreading, rather longer than the anthers; *anthers* broadly-oblong, apiculate; *pedicels* 3 lines long, jointed: *female flower* glabrous, shining, very small, 1 line diameter, petals 4 (sometimes 3 or 5), linear-lanceolate, acute, obscurely 1-nerved, spreading and reflexed, tips obtuse incurved, margins minutely pubescent; light yellowish-green; *style* long, exserted; *stigma* capitate, large, sub-globular, depressed, obscurely lobed, light-yellow. *Fruit* a drupe, broadly-elliptic, smooth, pink thickly spotted or splashed with dark pink, retaining large discoidal scar from style; *pedicels* 1½–2 lines long; *pulp* very viscid; the *panicle* becoming very much elongated when in fruit.

*Hab.* Parasitical on *Panax arboreum*, Petane Valley, near Napier, 1883: Mr. A. Hamilton; flowering in September, and bearing the ripe last year's fruit at the same time.

*Obs.*—It is not without some considerable amount of hesitation that I announce this plant as a *sp. nov.* of this peculiar and variable genus (hitherto) only one species; but it differs so much in bark and leaf, in flower and fruit, from *T. antarctica*, that I cannot but consider it to be truly distinct. In its general appearance also it widely differs, being a much larger plant of more straggling growth, while the constant and great difference in its dark-coloured and more oblong-shaped fruit, and undulated adult leaves (resembling those of *Myrsine d'urvillei*) is apparent at first sight. I have had plenty of good specimens for examination. The plant emits a peculiarly strong odour in drying (reminding me of that of green figs when peeled), remaining fixed for some time in the many thicknesses of drying papers.

903 Possibly *Raukaua anomalous* (Hook.) A.D.Mitchell, Frodin et Heads.

904 *Tupeia antarctica* (G.Forst.) Cham. et Schldl.

## ORDER XXXVIII. RUBIACEÆ.

Genus 1. *Coprosma*, Forster.*Coprosma concinna*,<sup>905</sup> sp. nov.

A small erect shrub, 2–4 feet high, of irregular growth, thickly branched above, branches slender, spreading; bark smooth, yellowish-brown; branchlets short, opposite and decussate, but distant, spreading at right angles, filiform, arcuate, pubescent; leaves few, scattered, 3–4 lines diameter, sub-membranaceous, orbicular trowel-shaped and broadly elliptic, very obtuse, sometimes sub-apiculate, slightly sub-crenulate, glabrous, light-green dashed with yellowish spots, margined, foveolate beneath in axils of lower veins and midrib, blade abruptly decurrent, petiole 1 line long and (with lower half of midrib) hirsutely pubescent, veins (and margins) red, finely reticulate; stipules acuminate acute, pubescent. Flowers very small, membranaceous, [331] glabrous, greenish with purple spots: male, calyx excessively minute, corolla campanulate spreading, tube very short, teeth rather large, obtuse, minutely pubescent at tips; filaments long, scaberulous, anthers oblong-ovate, exserted, sub-apiculate, cordate at base; mostly singly, infra-axillary and below, and lateral: female, flowers excessively small, minute; calyx cup-shaped with 4 short teeth, very hirsutely pubescent, hairs white; corolla much smaller than male, about  $\frac{1}{2}$  line long, tube slightly funnel-shaped, teeth 4 oblong ovate, revolute, (sometimes only 2) pubescent; styles, 2, very long, spreading, flexuous, stout, densely pubescent. Drupes underneath on lateral branchlets, always under 2 or 4 leaves, globose, shining, 2 lines diameter, dark port-wine colour, often 4–6, sometimes 10–18, together in a dense semi-cluster; fruit-stalks very short, opposite each other on the branchlet. Stipules below the fruit, small spreading irregular, pubescent on both sides and ciliate, usually having a long connate pair, sub-spathulate or oblong rounded at tips and 1-nerved, clasping the fruit, like a little involucel; each berry bearing 2 seeds  $1\frac{1}{2}$  lines long, largely convex, sub-ovoid, slightly acute.

Hab. Dry woods between Norsewood and Danneverke, Waipawa County, where it is plentiful, 1876–1883: W.C.

*Obs.*—Sometimes a shrub is met with bearing red berries (like small red currants in size and colour); a fully fruited shrub is a pleasing neat-looking object. As a species it will rank naturally near to *C. tenuicaulis*, *rhamnoides*, and *divaricata*.

Genus 2. *Nertera*, Banks and Solander.*Nertera pusilla*,<sup>906</sup> sp. nov.

Plant a very small perennial herb, low and prostrate, of densely compact (almost mossy) growth, closely intermixed with other small plants, setosely hispid with long white hairs, much branched below and creeping underground; branches woody, rooting at nodes; stems wiry, 1–2 inches high, erect, tips of branchlets level. Leaves sub-orbicular and broadly ovate, spreading, membranous with muricated white dots on upper surface,  $1\frac{1}{2}$ –2 lines long, obtuse, slightly decurrent, hispid on both surfaces and coarsely ciliate; hairs flat with raised bases (glands) on upper surface; veins anastomosing; petioles slender, 1 line long, connate at base; Stipules very minute, linear, acute, entire.

905 *Coprosma rhamnoides* A.Cunn.

906 *Nertera setulosa* Hook.f.

Flowers lightish-brown or yellowish, longer than the leaves, very few, solitary, scattered, sub-terminal and axillary, fugacious; corolla infundibuliform,  $3\frac{1}{2}$  lines long, hispid without and densely echinate at top, tube very slender; hairs white at first, reddish-brown afterwards; teeth rather large, acute; filaments very long, wiry, spreading, and twisting, white at first, black afterwards; anthers large, linear-oblong, much apiculate at tip, cordate at base, auricles acute sagittate; styles 2, exserted (but [332] not largely), one-third the length of filaments, very pubescent; fruit small, about 1 line long, very hispid, sessile, dry, oval, ribbed, truncate with minute persistent crown of 4–6 calycine teeth, 2 of them being usually much longer and opposite.

Hab. On dry upland heaths between Matamau and Danneverke (with *Viola perexigua* and *Myosotis pygmæa*), 1882–83: W.C.

*Obs.*—A species having close affinity with *N. setulosa*, Hook. fil.

Genus 3. *Galium*, Linn.*Galium erythrocaulon*,<sup>907</sup> sp. nov.

Plant small, tender, caespitose, upright, usually 3–5 inches high, simply branched at base; stems below and rootlets bright red and naked, stems above membranaceous, ciliated or hairy, with distant, white, acute, recurved hairs. Leaves very small in whorls of four, sub-rotund-elliptic,  $\frac{1}{2}$ – $1\frac{1}{2}$  lines long, 1 line broad or less, mucronate, very membranaceous, light green blotched with yellow, hairy on both sides, largely and distantly ciliate, spreading, subsessile, and very shortly petiolate, whorls distant on stalks, veins anastomosing. Flowers few, mostly solitary in axes of upper leaves, sometimes two on long divergent pedicels united together near base on a very short peduncle, very rarely three on one peduncle, and, when so, then bracteolated at junction, and the middle pedicel much the longest, simple peduncles and pedicels much longer than leaves, sometimes twice as long, upright; corolla rather large, 4-parted, pink, somewhat inflated and concave, segments broadly deltoid-ovate, 3-nerved, with three lines of erect minute pubescence within on the nerves, tips subacute incurved; ovary glabrous. Fruit of two globose minute carpels, dark-brown, rugulose and finely muricated with black points.

Hab. Stony declivities, skirts of dry woods between Norsewood and Danneverke, Waipawa County, 1879–1882: W.C.

*Obs.*—When I first detected this plant in 1879, I supposed it to be a small variety of *G. umbrosum*, although its rather large and pink flowers differed considerably from those of that species, which are minute and white; these characters, however, I thought to be abnormal. Subsequently (in 1882), on again meeting with this plant in another and distant locality, I gathered, examined and compared it, and now I believe it to be a distinct species. It is certainly distinct from A. Cunningham's *G. propinquum*, as described by him in his "Prodromus" (a New Zealand and northern species, which I also knew at the North), which Sir J.D. Hooker has united with Forster's *G. umbrosum*, as being identical with that plant. Moreover, Sir J.D. Hooker says (in his "Handbook"), that he doubts if *G. umbrosum* is really different from his Tasmanian species, *G. ciliare*; [333]

907 *Galium propinquum* A.Cunn.

however that may be, one thing is certain, that *G. ciliare* (of which Sir J.D. Hooker has given a drawing and dissections in his *Flora Tasmanica*) is very distant from this species, *G. erythrocaulon*.

#### ORDER XXXIX. COMPOSITÆ.

##### Genus 10. *Craspedia*, Forster.

###### *Craspedia viscosa*,<sup>908</sup> sp. nov.

*Plant* a simple perennial *herb*, bearing a single slender unbranched scape; whole *plant* viscid. *Leaves*, 4–6 at base, flat, spreading, sub-spathulate, entire, sessile, lamina extending to scape, membranous, glabrous with minute raised viscid dots, very slightly ciliate with white floccose hairs, apiculate, olive-green, trinerved; *veinlets* anastomosing. *Scape* erect, 8–16 inches high, bearing 10–12 leaf-like ovate-acuminate sessile bracts, alternate at about equal distances, lowest the largest, 1½ inches long, and gradually decreasing in size upwards. Compound head of *flowers* broadly sub-conical, with hairs as long as (or longer than) florets, ½–¾ inch diameter, upright, greyish; *corollas* slender, usually 3 in a head, each 3 lines long, tube greenish, dilated at base, petals tinged with red; *involucral scales* ovate, acute, 1-nerved, scarious at edges, outermost thickly muricated with minute raised dots, and pubescent in the centre; *pappus* very numerous, main stems of plumose pappus very broad at their bases; *achene* linear-ovate, shining, strigillose, slightly subangular, with a thickened areole at base having a hollow central depression.

*Hab.* Open spots, and among *Leptospermum* shrubs, dry hills near Matamau (S.), Waipawa County, 1881–1883: W.C.

*Obs.*—This species differs in habit from the two more showy species (N.Z.) already described, in not bearing its compound head of florets globular like a ball; the head is always upright, even after flowering, and confined within its involucral scales.

##### Genus 14. *Gnaphalium*, Linn.

###### *Gnaphalium parviflorum*,<sup>909</sup> sp. nov.

*Plant* a slender perennial *herb*, prostrate, spreading, sub-ascending, much branched, rooting at joints; forming dense little beds or cushions where undisturbed. Ultimate *branchlets* filiform, 6–9 inches long, very cottony; *leaves* sub-imbricate above and distant on stems below, 3–4 lines long, oval, apiculate with a short stout coloured mucro, entire, sessile, decurrent, very nearly wholly embracing the stem, alternate, regular, white and densely cottony below, very slightly so above, upper surface bright green, floccosely ciliated with white tomentum, midrib prominent and stout below. *Heads of flowers* few, solitary, 2½ lines broad on a filiform peduncle 2 inches long, terminal on branchlets, bearing 1–2 small bracts; *involucral scales* numerous, all green with golden coloured and shining scarious edges and tips, obscurely [334] nerved; *inner*, linear, glabrous, tips lacerate and ciliate with white cottony tomentum; *outer*, broadly oval, coloured with a carmine border round the green centre, and very cottony; *tips of corollas* tinged with red; *receptacle* concave, deeply and

minutely punctured; *achene* very small, linear, finely scaberulous, truncate at base with an acicular central point.

*Hab.* With the preceding plant (*Craspedia viscosa*), 1879–1883: W.C.

*Obs.*—I have long known this plant in its leafing state, and have often sought diligently for its flowers, but failed in securing perfect specimens until this year. In its general appearance at first sight it closely resembles *G. filicaule*. It grows very thickly and luxuriantly where undisturbed, but only produces very few heads of flowers.

#### ORDER L. BORAGINEÆ.

##### Genus 1. *Myosotis*, Linn.

###### *Myosotis pygmaea*,<sup>910</sup> sp. nov.

A very small strigose-hispid sparingly branched perennial (and annual) *herb*; *stems*, 1–3, short, ¾–1¼ inches long, prostrate, spreading from root; *leaves* few, radical petiolate, caudine sessile, obovate-spathulate, ½-inch long, very obtuse, thickish, mostly brownish-liver-coloured, strigose above with large rigid white hairs arising from muricated points, ciliated; the lower surface of radical *leaves* glabrous, green, midrib very stout; *flowers* solitary, axillary, sessile, 2–3 only on a branch in the axils of upper leaves; *calyx* large, inflated, hispid and ciliate with long white hairs, lobes very long, acute, spreading, ciliate; *corolla* pale yellow, tube cylindric, shorter than calyx, lobes rather large, rounded; *stamens* included; *nut* ovoid, convex on the one side and sub-carinated on the other with a slight compressed margin, turgid, obtuse, glabrous, shining, brown-black.

*Hab.* On dry upland open heaths (with *Viola perexigua, supra*), between Matamau and Danneverke, Waipawa County, 1882–83: W.C.

*Obs.*—This little plant grows sparingly there, though from its small size and retiring habit it is easily overlooked; besides it is very early dried up and withered. I think I have also found it nearly 40 years ago, but only as an annual, growing on the pebbly beach, a little above high-water mark, between Napier and the mouth of the river Ngaruroro. It seems to be allied to *M. antarctica*, Hook. fil., but is distinct.

#### ORDER LV. LENTIBULARIEÆ.

##### Genus 1. *Utricularia*, Linn.

###### *Utricularia subsimilis*,<sup>911</sup> sp. nov.

A very small slender erect *herb*. *Roots* rather short, flat, white, semi-transparent, hair-like, with small scattered globular hyaline bladders, much fimbriated on the one side. *Leaves* few (2–3), basal, linear-spathulate, obtuse, 1-nerved, entire, 6–8 lines long; *lamina* short, about 1 line broad, [335] green; *petioles* white, semi-transparent, flat. *Scape* 2–3½ inches high, simple, filiform; *flowers* 1 (sometimes, but rarely, 2, only one such specimen seen), *pedicels* very slender, about ½ line long, bracts at top of scape 5, ovate-acuminate; *sepals* large, inflated, sub-orbicular in outline, the upper one very slightly sinuate, margins entire; *corolla*

908 Stet.

909 Stet.

910 Stet.

911 *Utricularia dichotoma* Labill.

purple, strongly-veined, 3–4 lines diameter, upper lip small, cuneate, retuse, the lower one somewhat circular in outline (*i.e.*, presenting the broad segment of a circle), entire.

*Hab.* "In swampy grounds at Tapuaeharuru," interior (Taupo district), 1880: *Mr. A. Hamilton.*

*Obs.*—This species seems to have some slight affinity with *U. lateriflora*, Br., a Tasmanian species. Some allowance will have to be made for my description of the corolla of this plant, as I find it almost an impossibility to dissect it satisfactorily when in a dried state, particularly when the specimens have been closely pressed.

#### ORDER LXX. CUPULIFERÆ.

##### Genus 1. *Fagus*, Linn.

###### *Fagus apiculata*,<sup>912</sup> sp. nov.

A tall handsome tree, 40 feet (and more) high, erect, of symmetrical shape; trunk 2 feet diameter; bark of trunk pale, smoothish; branches opposite, regular, horizontal, plane, spreading, bark darkish brown, studded with lighter coloured spots; branchlets pubescent. Leaves not crowded, rather distant, regularly disposed, sub-membranaceous, glabrous, broadly oblong-lanceolate, 1 inch long, entire, minutely crenulate, finely reticulated, margined, strongly apiculate, the point hard, obtuse, petiolate, slightly and finely pubescent on petioles and beneath; colour light-green; petioles 1–1½ lines long; bracts, outer glabrous, brown, shining, ovate-acuminate,—inner green, narrower and longer, obtuse, with scarious and ciliate edges. Male flowers lateral, on smaller slender branchlets, single, alternate, 2–4 (or more) near each other; peduncle slender, 2–2½ lines long, red, glabrous, or with a few weak scattered hairs; perianth cup-shaped, inflated, glabrous, whitish with pink margin, semi-pellucid, veined, largely 5-toothed, teeth obtuse; anthers 12–14, linear-oblong, apiculate, loosely exserted on long flat slender filaments, nodding. Female flowers (immature), small, axillary, sessile in axil of leaf above the male flowers, ovate, downy; styles brown, exserted.

*Hab.* In forests between Matamau and Danneverke, County of Waipawa, 1883: *W.C.*

*Obs.*—The discovery of this very distinct species of *Fagus* has much pleased me, as it supplies a required link between our known New Zealand species with large serrated leaves (*F. fusca* and *F. menziesii*) and our small entire leaved species (*F. solandri* and *F. cliffortioides*), and also between [336] them and the Tasmanian and S. American species, which all have serrated leaves. The growth, habit and general appearance of this species (*F. apiculata*); with its thin and scattered leaves and flattened spreading branches, is very much like that of the northern variety of *F. fusca*, from Kaitaia near the North Cape, which I have ever supposed to be distinct from the *Fagus* of the East Coast (Poverty Bay), as well as from the plant of Whangarei (Bream Bay);<sup>913</sup> though at present those three (vars.?) are all classed under *F. fusca*. I have never, however, seen the northernmost plant in flower or fruit.

#### Class II. MONOCOTYLEDONS.

##### ORDER I. ORCHIDEÆ.

###### Genus 3. *Bolbophyllum*, Thouars.

###### *Bolbophyllum tuberculatum*,<sup>914</sup> sp. nov.

Plant epiphytal, forming irregular patches on upper forks of large trees (*Dacrydium cupressinum*); roots 2–3 inches long, stout; leaves linear-oblong, 8 lines long, 2 lines broad, acute, sub-apiculate, entire, glabrous, dark-green on upper surface, of a lighter-green below, and there minutely and closely dotted with round greyish dots, flat or slightly involute, thickish but not fleshy, having 8–10 parallel veins which are transversely netted, keeled; stipe stoutish, 1 line long; bulbs ovoid, 3–3½ lines long, turgid, ridged; ovary oblong, 2 lines long, glabrous, greenish-white, tuberculated in rows, tubercles blunt, reddish; scape 6–8 lines long, springing from rhizome below base of bulb, slender, turgid and sub-pyriform at base, reddish, muricated, bearing a short raceme of 2–3 flowers; flowers alternate, rather distant on short pedicels, ½ line long, each having a bract at its base; bracts sessile rather more than half-clasping, deltoid-acuminate with a produced stout obtuse tip.

*Hab.* In forests near Petane, Hawke's Bay, 1883: *Mr. A. Hamilton.*

*Obs.*—A species very distinct from our long known and common *B. pygmaeum*, Lindl.; apparently rare, though possibly confounded with that species. It is a much larger plant of similar appearance and habit. I regret that I have not yet seen new and perfect flowers.

###### Genus 9. *Corysanthes*, Brown.

###### *Corysanthes hypogaea*,<sup>915</sup> sp. nov.

Plant very small, terrestrial, tender, succulent; leaf single, 5–8 lines diameter, membranous, shining, much veined, veins largely anastomosing with longitudinal dots in the interspaces, cordate-reniform, 3-lobed at tip, middle lobe produced, acute acuminate, side margins sinuate with a single notch on both sides near base, auricles large, distant, subhastate, very blunt; light green above, midrib and marginal spots purple; silvery below [337] and sometimes dashed with a purple hue; petiole ½–1½ inches long, white, often pinkish, with a sheathing truncate bract at base; peduncle short, 1–2 lines long, bibracteate close to base of flower, the front bract much smaller linear, the hind one ovate-oblong, both obtuse; flowers 3–4 lines diameter, much veined, dorsal sepal arched, closely clasping, subobovate-spathulate, narrowest at base, rounded and slightly sinuate or subapiculate at apex, green with a purple median line; lateral sepals and petals linear acuminate, very narrow filiform, upper pair ¾ inch long, lower pair hair-like, 4 lines long; lip large, dark blood-red above with darker stripes, greenish below spotted with red, bi-lobed at top, lobes rounded entire, 2–3 deep laciniations or ragged lobes below, with the sides much cut and jagged and incurved, a delicate circular bordered ear-like aperture on both sides immediately behind bases of petals.

*Hab.* Among mosses, steep clifffy sides of dry hills, *Fagus* forests near Norsewood, Waipawa County; 1880 (plentifully

912 *Nothofagus apiculata* (Colenso) Cockayne.

913 WC: See "Tasmanian Journal of Science," vol. ii., p. 234.

914 *Adelopetalum tuberculatum* (Colenso) D.L.Jones, M.A.Clem. et Molloy.

915 *Nematoceras hypogaea* (Col.) Molloy, DL Jones & MA Clem.

but barren); 1882 (a few capsules long past flowering); and 1883, September, in flower: W.C.

*Obs.*—I have known this plant for some years, but never found it in flower until the spring of 1883, mainly owing to its peculiar manner of growth, and its very early flowering; for while its one small leaf is spread flat on its mossy bed, its delicate flower is 1–2 inches below the surface, and never appears above during its flowering, though afterwards (in a few observed instances) its capsule is shown just above the surface, owing to the elongation of the peduncle after flowering, which habit is also common to the genus. It grows pretty thickly scattered in beds, showing its small glistening leaf just above the mosses and débris of fallen *Fagus* leaves (*F. solandri*), but flowering specimens are very scarce, not one plant in twenty bearing a flower. A species possessing close affinity with *C. triloba*, Hook. fil.

#### *Corysanthes papillosa*,<sup>916</sup> sp. nov.

Plant small, 2–3½ inches high. Leaf ¾–1¼ inches diameter, membranous, finely and regularly papillose on upper surface, orbicular-cordate; auricles broad and largely rounded overlapping petiole, slightly retuse and apiculate at tip, much veined; veins anastomosing with an intramarginal vein running all round, light-green with (sometimes) a purple midrib and spots near margin; petiole ½–2 inches long; peduncle short, 3–4 lines long, variously situated—springing from near base of long petiole—from the middle—and from the top near leaf, purple spotted, bibracteate at base of ovary; bracts small, unequal, the front one very minute, white, the back one much larger, ovate-acuminate, green. Flower ½ inch diameter, upper [338] sepal suboblong-lanceolate, 2½ lines broad, acuminate, acute, projecting far beyond the lip (sometimes 2½ lines), recurved at tip, very thin, 5-nerved longitudinally, greenish-white spotted with purple-red; lateral sepals very filiform, 6–9 lines long, acute, whitish; lateral petals about 2 inches long, somewhat filiform but stoutish, obtuse, cylindrical, twisted, minutely spotted and coloured purple-red above for half of their length, white below; lip large orbicular, ½ inch (or more) in diameter, deeply bilobed above, spreading, plain, neither recurved nor involute, margins rounded entire above with a single slight notch at top on each lobe, very minutely undulate or finely and slightly toothed, retuse and apiculate below, papillose within, transparent, much veined; colour, dark purple-red above, whitish spotted with purple-red below; ovary subangular, sulcated, purple striped.

*Hab.* In various parts of Hawke's Bay, among mosses in ravines, shaded woods in the interior, 1850–1880: W.C. Glenross, near Napier, 1883: Mr. D. P. Balfour.

*Obs.*—A fine species closely allied to *C. macrantha*, Hook. fil., but very distinct. Also, having affinity with *C. fimbriata*, Lindl., an Australian and Tasmanian species.

#### *Thelymitra formosa*,<sup>917</sup> sp. nov.

Stem erect, very stout, 12–14 inches high, 3 lines diameter, tinged red with leaf bracts and bracteoles; two sheaths below leaf, scarious, truncate obtuse pointed and 2-nerved; 1–2 foliaceous bracts above leaf, 2½ lines long very acuminate, acute; leaf very thick fleshy, linear-ovate, 10

inches long, reaching to lowest flower on scape, 4-nerved, broadly keeled, deeply channelled, edges incurved, 6–8 lines wide near base, purple-brown densely covered with minute red raised dots. Flowers 5–10, erect on stout pedicels ½–¾ inch long; a bracteole at base of each, ovate-acuminate very acute, sub-clasping ½–¾ inch long reaching to base of perianth, obscurely 6–8 nerved; perianth 1–1¼ inches diameter. Sepals ovate-acuminate, nerved, a little longer than the petals, brownish-purple with white margins; petals light bluish-purple, broadly oblong-lanceolate, very obtuse, or elliptic with a mucro, obscurely nerved. Column with pointed tip; appendages (staminodia) long, much longer than the column each bifid, anterior arm densely fimbriated with yellow fimbriae, posterior ditto with long subulate erect points at top, and crenulated fleshy pink edges on back slope running down to a deep notch at the back, exposing top of column. Ovary obovate, 9 lines long, 3 lines wide, broadly ribbed. Tubers 2, large, sub-obvoid, obtuse, 1 inch long, ½ inch broad.

*Hab.* In clayey ground, *Fagus* woods, high land between Norsewood and Danneverke, Waipawa County, 1882; flowering in December: W.C. [339]

### ORDER V. TYPHACEÆ.

#### Genus 2. *Sparganium*, Linn.

##### *Sparganium angustifolium*, R. Brown.

*Hab.* Hawke's Bay, low watery places, sides of streams, etc.: W.C. Petane, near Napier, 1882: Mr. A. Hamilton.

*Obs.*—Agreeing closely with the Australian species; also found in the northern parts of the North Island, and long confounded with *S. simplex*, Huds.

### ORDER VII. LILIACEÆ.

#### Genus 4. *Dianella*, Lamarck.

##### *Dianella nigra*,<sup>918</sup> sp. nov.

Plant a diffuse herb; leaves drooping, subrigid when old, 3 feet long, 8 lines broad, linear acuminate and very acute, keeled, hooked on margins and keel throughout, glabrous, glossy above, striate below, finely and regularly nerved, margins slightly recurved, light-green, bases pink-red, and so bracts. Scapes, 3 feet 9 inches to 4 feet 3 inches long, stem below dark-green, subterete, 1–2 foliaceous bracts below panicle; panicle proper, 2 feet to 2 feet 8 inches long, narrow oblong, slender and very loose, black-purple; main branchlets few, 4–10 inches long, wiry, filiform, very distant on rhachis, 4–6–10 inches apart, tough, each divided into 2–4 long slender sub-branchlets, all straight and suberect, each sub-branchlet with 4–5 scattered flowers at top on long pedicels; pedicels 1–2 inches long, spreading; ultimate bracts small, linear, obtuse, 1–2 lines long, generally situated 2–4 lines below junction of subpeduncle. Perianth (unfolded) dark-purple almost black, linear-oblong obtuse under 2 lines long, expanded 3½ lines diameter, patent not reflexed, segments with very dark distinct nerves, margins whitish; three outer segments 5-nerved, sublinear-ovate, three inner segments 3-nerved, broader and more obtuse at apex. Anthers linear-oblong obtuse, light-yellow, scarcely 1 line long; strumæ about same length, a little thicker, thickest upwards, dark orange-yellow; filaments

916 *Nematoceras papillosa* (Col.) Molloy, DL Jones & MA Clem.  
Identification uncertain, related to *N. macranthum*.

917 Stet.

918 Stet.

below much longer, very slender, bent and crumpled, white; *style* a little longer than stamens, slightly curved; *stigma* capitate, papillose. *Ovary* subtriangular, rotund at apex, glabrous,  $\frac{1}{3}$ , or so, inferior.

*Hab.* Dry hillsides among under shrubs, forests near Matamau (S.), Waipawa County, 1882; flowering in December: W.C.

*Obs.*—A peculiar looking species from its tall, large, and lax black panicle and very small star-like flowers, widely differing from our other only known N.Z. species, *D. intermedia*, which species is also said to be generally common in the S. Polynesian Islands, as Fiji, etc. [see Seemann, Bentham, etc.] I only detected two bushy diffuse plants or tussocks that had been browsed on by cattle in the past season; they bore, however, a quantity of new leaves, and a great number of scapes. [340]

#### Genus 5. *Astelia*, Banks and Solander.

##### *Astelia spicata*,<sup>919</sup> Col. (*male plant*).<sup>920</sup>

*Plant* much the same as the female one in size, leafing, and general appearance. *Scape* erect, 3 inches high, including spike; *spike*  $1\frac{1}{2}$  inches long, bearing 12 flowers, the lower ones distant, alternate and pedicelled, each one of these having a long leaf-like broadly-lanceolate-acuminate and ciliate bract, the lowermost being  $3\frac{1}{2}$  inches long, acute and pubescent at tips; the upper flowers are sessile, clustered in a dense obtuse spike, each one having a fine long linear silky bracteole; lobes of *perianth* white, large, hyaline, linear-oblong, obtuse, 1-nerved, at first cohering at tips and covering anthers, etc., in a conical form, afterwards wholly reflexed; *filaments* white,  $1\frac{1}{2}$  inches long, flat, spreading, succulent; *anthers* linear, light brown; *pollen* numerous, issuing in large white grains, possessing a sugary appearance.

*Hab.* Epiphytical on living trees, in forests near Norsewood (same locality as that of the *fem.* plant), 1883: W.C.

*Obs.*—It is rather a curious incident that, after two years research (and always seeing scores of barren (?) plants high up on the neighbouring trees around), I found only this *one* plant in flower, growing in the low fork of a tree, just as in the case of the *one* *fem.* plant two years before.

#### ORDER XI. CYPERACEÆ.

##### Genus 9. *Cladium*, Linn.

##### *Cladium (Vincetoxicum) gahnooides*,<sup>921</sup> sp. nov.

*Plant* growing in large bushy tufts; *culms* 2 feet high, compressed, smooth, leafy; *leaves* flat vertically without a midrib, 2–3 feet long, 4–7 lines broad, linear-acuminate, acute, margins entire, smooth, not cutting, sub-membranaceous, softish, finely striate, equitant at bases, pale green; *panicle* 6–8 inches long, much branched, nodding; *bracts* sheathing glabrous, dark-brown, lower ones very acuminate, minutely scabrid only at tips; *branchlets* drooping, springing from smaller bracts; *peduncles* flat, or tetragonal, compressed, striate, glabrous; *sub-peduncles*

and *pedicels*, flat, ciliate-scabridulous; *spikelets* small, fascicled, rich dark red-brown; *lower glumes* and *bracts* awned, glabrous, very slightly and minutely scabridulous on mid-nerve at back; *stamens* 3, 1 inch long, flat, colour light-brown, twisted, dilated and truncate at apex, elongated and persistent after flowering; *style* 1 line long, persistent; *stigmas* 3, linear, longer than style, densely papillose; *nut* very small, less than 1 line long, spindle-shaped, turgid, triquetrous throughout and ribbed at margins, beak minutely barbed, base thickened, often hanging by the persistent filaments as in several *Gahniae*; colour pale light-brown. [341]

*Hab.* Clifly banks of the upper part of the Petane River, near Napier, on high and dry stony ridges, and on similar spots inland between Hawke's Bay and Taupo, 1846–1852: W.C. Petane Valley, 1881: Mr. A. Hamilton.

*Obs.*—A species closely allied to *C. sinclairii*, Hook. fil., but smaller in all its parts.

#### Genus 13. *Uncinia*, Persoon.

##### *Uncinia bractata*,<sup>922</sup> sp. nov.

*Plant* perennial, erect, growing in large bushy tufts. *Culms* 12–18 inches high, stout, smooth. *Leaves* numerous, shorter than the culms, 10–14 inches long, 2 lines broad, flat, membranous, many nerved, keeled, slightly scabridulous, more so at tips which are obtuse. *Spikelet*  $3\frac{1}{2}$  inches long,  $\frac{1}{6}$ th of an inch broad, trigonous; upper 6–12 lines male; *bracts* 2 sometimes 3, very long, longest and lowermost 6–10 inches and more, foliaceous, very narrow, channelled, scabridulous above, slightly so below; *glumes* closely imbricate, linear, acute, 2 lines long, glabrous, obscurely nerved, keeled, dark-brown; *utricles* shorter than glume, subrhomboidal, glabrous, nerved, subtriangular, compressed, dark-brown at top light-coloured below; *bristle* slender, as long as the utricle.

*Hab.* Woods, dry hills, between Norsewood and Danneverke, Waipawa County, 1882–3: W.C.

*Obs.*—A species having affinity with *U. australis*; from its much softer foliage often browsed on by cattle.

##### *Uncinia obtusata*,<sup>923</sup> sp. nov.

*Plant* thickly cespitose in rather small tufts. *Culms* 12–21 inches high, sub-erect, rigid, smooth, but finely scabridulous at top for about 1 inch below spikelet, triquetrous. *Leaves* much shorter than culms, 6–9 inches long, linear,  $\frac{1}{6}$ th of an inch wide, flat, membranaceous, grassy, sub-erect, smooth, finely and closely scabridulous towards top, obtuse, nerved, slightly keeled. *Spikelet* 1–1½ inches long, loose, spreading, few-flowered, flowers distant; upper 4–5 lines male, very slender; *bract* 3–4 inches long, filiform, obtuse, scabridulous, and densely so at top; *glumes* closely imbricating, shorter than utricle, 1½ lines long, deltoid-acuminate; 1-nerved, obtuse, lowest (one or two) trifid and awned, awn long barbed obtuse; *utricles* longer than glume, 2 lines long, broadly lanceolate, glabrous, produced and tumid at base, triquetrous, turgid, 3-nerved, at first green, afterwards when old dark-brown; *bristle* slender,  $\frac{1}{2}$  a line longer than utricle; *stigmas* long, spreading.

919 *Collospermum spicatum* (Colenso) Skottsberg.

920 WC: See "Transactions N.Z. Institute," vol. xiv., p. 335, for a description of the female plant.

921 *Machaerina sinclairii* (Hook.f.) T.Koyama.

922 Possibly *Uncinia uncinata* (L.f.) Kük.

923 Inc. sed.

*Hab.* Open woods near Norsewood, County of Waipawa, 1882–3: W.C. [342]

*Obs.*—Sometimes the culm is entirely smooth throughout, and without a bract.

#### Genus 14. Carex, Linn.

##### *Carex flagellifera*,<sup>924</sup> sp. nov.

A flaccid diffuse largely tufted species. Culms slender, 7–8 feet long, 1 line diameter below, much less above in middle and long panicle, smooth, subcylindric, hollow in the centre, striate, prostrate, extended, bearing a single leaf about the middle. Leaves drooping and spreading, much shorter than the culms, 2 feet 6 inches long, 1 line wide, stout, smooth, channelled, finely scabrous at edges, and still more slightly so on midrib at back, above but not below, green, regularly striate, with a broad filmy margin at the extreme base.

Spikelets 4–6 (usually 5), very distant on panicle, cylindrical 2½ inches long, peduncled, pendulous; peduncles 2–3 inches long, compressed, lowermost pair 1–2 feet apart, sometimes the lowermost one is compound trifid or shortly tripedicelled, the uppermost one is male and very slender, 1½ inches long; bracts very long, narrow and foliaceous, finely scabrid at edges; glume ovate-acuminate, 1½ lines long, stoutly 1-nerved, awned, awn barbed; utricle as long as the glume, broadly lanceolate, bifid, turgid shining, light-brown; stigmas 2.

*Hab.* On sides of abrupt clayey declivities, woods, between Norsewood and Danneverke, Waipawa County, 1881–1883: W.C.

*Obs.*—A very remarkable species, owing to its very long weak and prostrate culms, which stream away together like long wisps or bands, and so get entangled among the low herbage and common fern—*Pteris esculenta*. *Carex sexspicata*, sp. nov.

Culms 2 feet–2 ft. 3 in. high, erect, stout, trigonous, smooth, more than 1 line in diameter, leafy, culm leaves with a sharply acute triangular hairy ligule; leaves as long as culms, ¼ inch wide, sub-rigid, rather harsh, flat, many nerved, the 2 principal lateral nerves white and strong on the upper surface, very acuminate, expanding below into wide filmy sheaths, keeled, closely and finely scabrid at edges, and slightly so on the two white nerves above and on the midrib below, striated; spikelets 6, approximate, each about 2 inches long, stout, shortly peduncled, erect, light brown, panicle short, ⅓ below of upper spikelet male, and the next two with a very few males below, the other 3 wholly female; bracts wide, foliaceous; glume linear-ovate-acuminate, bifid, sub-awned, less than 2 lines long, shorter and much narrower than the utricle, 1-nerved, longitudinally and numerously marked with fine short red lines, persistent; utricle ovate-acuminate, 1-nerved, turgid, spreading, smooth, bifid, tips acute, long-produced; anthers 1½ lines long, linear, apiculate, twisted, light brown; filaments longer than anthers, flat, much flexuous; stigmas 3. [343]

*Hab.* Edges of River Mangatawhainui, near Norsewood, 1883: W.C.

#### ORDER XII. GRAMINEÆ.

##### Genus 16. Danthonia, DeCandolle.

##### *Danthonia pentaflora*,<sup>925</sup> sp. nov.

Plant tufted, but not in dense tussocks. Culms 2–3 feet high, glabrous, stout. Leaves flat, 3–3½ feet long, 2–3 lines wide, pale green, strongly nerved, glabrous and shining above, pilose below with long scattered white hairs, margins thickened bearing a double row of fine sharp cutting spiny recurved teeth, midrib scabrid above; sheaths ⅓ of an inch broad, subcoriaceous, glabrous and keeled below, pilose above and ciliated with long straggling hairs, margins towards top slightly scabrid, densely and silky pilose with compressed hairs above mouth of sheath, and a transverse line of thickly set shortish white hairs almost disposed in little regular pencilled tufts forming a ligule. Panicle large, erect, broadly obovate, 12–14 inches long, open, diffuse, very thin; branches alternate, distant, 4–8 inches long, 5 springing nearly together from a node, glabrous; branchlets very slender, filiform, few flowered, scaberulous. Spikelets distant, ½ inch long, 5-flowered; peduncles ¼–1 inch long, hairy under spikelet; florets sessile on rhachis; rhachis below florets densely hairy; hairs long. Empty glumes margins entire, subacute, lower one much the smaller, strongly 1-nerved, upper one slightly ciliated near base; flowering glume ciliate with long white hairs at margins near base, the 2 lobes much elongated but not awned, very finely and closely villously-ciliate, 1-nerved, awn much longer than glume, acicular, flat at base, 2-nerved, spreading, deflexed; pale nearly as long as the glume, broadest near top, almost subobovate retuse, minutely and closely pilose-ciliate and subpeneilled at apex, largely ciliated with long hairs on the back near base, margins pale-green. Anthers (immature) very long, nearly 2 lines, linear, light-brown, not exserted.

*Hab.* Slopes of Ruahine mountain range (immature), 1846, etc.: W.C. Near same localities, 1882: Mr. A. Hamilton.

*Obs.*—A species very near to *D. cunninghamii* in its general appearance but smaller, of tufted growth but not largely so, and more restricted as to locality. I have closely examined several specimens, gathered at various seasons and in separate localities, and have invariably found a spikelet to consist of 5 florets, the upper one being often smaller and abortive. Unfortunately all my specimens, though gathered at different times in early summer, were rather immature; and those collected by Mr. Hamilton in December are much the same. This species ripens its seeds late in the autumn. I have hitherto refrained from describing it in the hope of obtaining more complete specimens. [344]

#### Class III. CRYPTOGAMIA.

##### ORDER I. FILICES.

##### Genus 1. Gleichenia, Smith.

##### *Gleichenia littoralis*,<sup>926</sup> mihi.

Plant gregarious; rhizome creeping, stoutish, thickly clothed with shining brown lacinate scales; stipes erect, glabrous, 6–8 inches high, sub-cylindrical below, flattish above, deeply channelled on upper surface, olive-green, sometimes light-brown; fronds sub-flabelliform, 2-branched, each main

925 *Chionochloa conspicua* (G.Forst.) Zotov subsp. *cunninghamii* (Hook.f.) Zotov.

926 *Sticherus flabellatus* (R.Br.) H.St.John.

branch once or twice forked, or sometimes with 3 single branchlets; *branchlet* ovate-acuminate, 4–6 inches long, 1– $\frac{1}{4}$  inches broad near base, pinnate below, deeply pinnatifid quite to midrib above, extending also to apex which is not caudate; *colour* reddish-green, rhachis and veins red; *segments* linear, glabrous, sub-membranaceous, opposite and occasionally alternate, plane, patent, sub-erect, broadest at base, decurrent,  $\frac{1}{2}$ – $\frac{3}{4}$  inch long, 1 line wide, pinnate, distant and sub-adnate, not decurrent, (those on branchlets below the upper forking are generally the longest—there are none below the first or lowest fork), margins entire (slightly recurved in age), sometimes a few segments are irregularly and very finely and distantly serrulate; *apices* very obtuse incurved and adpressed and finely woolly on both surfaces; *midrib* and veins woolly below with shining silky spreading hairs; *capsules* reddish, usually 4 together (sometimes 5 or 3), biserial on upper veinlets of middle of segments, exposed; *veins* prominent, forked.

*Hab.* Wooded cliffy shores of Whangaruru Bay S., 1836–41: W.C. Owana, E. coast Great Barrier Islet, Thames, 1883: Mr. C. P. Winkelmann.

*Obs.*—This species is allied to our *G. flabellata*, Br. (but is very distinct from it, though often, I think, confounded with it), and, possibly, more so to the Cape Horn species, *G. acutifolia*, Hook., particularly in its being a small pedate, erect, non-proliferous species, and like that species also a seaside plant. It seems to have a narrow range, at least I never met with it anywhere else than in that one habitat at Whangaruru, though there it grew plentifully and thickly in one spot, which I visited year after year from the time of its first detection, but could only find short barren yellowish fronds, which both A. Cunningham and Sir W.J. Hooker supposed to be those of *G. flabellata* in its young state; this, however, I always doubted. Now, then, after more than 45 years! it has been rediscovered by Mr. Winkelmann as above, from whom I have had for examination several specimens in full fruit, and pretty uniform.

#### *Gleichenia punctulata*,<sup>927</sup> mihi.

*Fronds* erect, slender, 1½–2½ feet high, repeatedly dichotomously branched, very regular; *stipe* and *rhachises* slender, brown, densely scaly, [345] woolly, and hairy; *branches* deltoid-acuminate, 5–7 inches long, 2 inches broad at base, pinnate; *pinnæ* petiolate, alternate, very distant, 1 inch long, 1½ lines broad, deeply pinnatifid to midrib, glabrous and shining and dull dark green above, wholly glabrous below, except towards base of midrib, and there slightly woolly and scaly, but not hairy, whole plant, however, densely woolly and scaly below when young, the lowest pair of lobes (or sometimes two) larger, distinctly free and pinnate, lobules adnate, broadly elliptic, almost sub-quadrangular, very obtuse and slightly recurved at tips, glaucous almost blue beneath, and minutely and regularly punctulate (stippled) with light fawn-coloured shining dots; *veins* usually 1–3 branched, obscure; *capsules* 1–2 together, large, white, exposed, submarginal on upper inner corner of lobule; *hairs* short, rigid, dark red, fascicled in small scattered bundles; *scales* large, triangular, acuminate, netted and thickly ciliated.

*Hab.* Near Hot Springs, centre Great Barrier Islet, Thames, 1882: Mr. C. P. Winkelmann. I have also seen barren specimens collected earlier, from the west coast, South Island

*Obs.*—A species having pretty close natural affinity with *G. microphylla*, Brown; *semivestita*, Lab.; and *hecistophylla*, A. Cunn.; but differing from them all, and possessing characters which those species have not—that are better seen than described in words.

*NOTE.*—I have ever believed in the specific distinctness of those three ferns I have just mentioned; in which I also wholly agree with Mr. J. Smith (who had so long successfully cultivated them at Kew), in his last two works on ferns, viz., "Historia Filicum," p. 339, and "Ferns, British and Foreign," p. 248; as well as with Sir W.J. Hooker in his "Species Filicum." Those eminent practical botanists, R. Brown and A. Cunningham, who had ample opportunities throughout many years of observing those three ferns they had described in their native habitats, could not possibly have been mistaken about them.

#### Genus 10. *Lindsaea*, Dryander.

##### *Lindsaea trilobata*,<sup>928</sup> sp. nov.

*Rhizome* creeping densely scaly; *scales* ramentaceous, largely reticulated and transversely barred. *Plant* erect, caespitose, 7–10 inches high, sublinear-lanceolate acuminate, pinnate, glabrous, dull green, but when young of a graceful delicate light green, sub-membranaceous. *Stipes* 4–6 inches long, very flexuous and tough below, obscurely triquetrous, compressed at base, deeply channelled and shining (together with rhachis) on the upper surface, slightly and sparsely roughish and muricated with little round knobs; *colour* light chestnut-brown. *Fronds* 3–5 inches long, 6–9 lines broad, fertile ones usually the longest and about 20–22-jugate; *pinnules* [346] 2–4 lines long,  $\frac{1}{2}$ –3 lines deep, opposite and sometimes alternate, petiolate, obliquely-flabelliform, sub-rhomboidal, and broadly cuneate, spreading, distant, lower very remote, upper approximate; *petioles* slender; the larger pinnules of the barren fronds and frequently of the fertile ones deeply 2–4 (mostly 8-) lobed on upper convex margin; *lobes* laciniate and irregularly crenate and toothed, the lower and inner margins of pinnules entire; *veins* radiate, free, forked, clavate at apices, prominent, dark-coloured, not extending to margin. *Involucres*, the inner valve green, broad, extending quite to margin of the outer one; *margins* of both closely and deeply laciniate-toothed; *teeth* sub-rigid, very obtuse; *margins* (with petioles and upper rhachis) bright red, and revolute when young. *Sori*, straw-coloured, but reddish with age.

*Hab.* In hollows on high land, tops of hills near the north head of Wellington Harbour (but not plentiful), 1846–7: W.C. Whangaparapara, west coast Great Barrier Islet, Thames, 1883: Mr. C. P. Winkelmann.

*Obs.*—A species having affinity with *L. linearis*, Sw., and probably with *L. incisa*, Prentice, another Australian species (judging from Bentham's description of this latter, as I have not seen any specimens of this plant), and with *L. lobbiana*, Hook. (also from his description). Differing, however, from *L. linearis* (a species found plentifully in New Zealand—Bay of Islands, and elsewhere) in size—in its larger and lobed pinnæ, which are also on slender petioles—in form and colour of stipes and rhachis, and in the stout obtuse toothing of its involucres. Here I might very well adopt Sir W.J. Hooker's remark in describing the fern above mentioned, *L. lobbiana*:—"Without a figure I should

despair of making its character intelligible, so difficult is it to define in words the forms of the pinnæ of these plants."—*Sp. Filicum.*

#### Genus 16. *Lomaria*, Willdenow.

##### *Lomaria oligoneuron*,<sup>929</sup> sp. nov.

*Plant* under a foot high, tufted, 6–12 fronds to a plant, glabrous, suberect and spreading, with a short, stout, woody caudex about 1 inch long. *Roots* stoutish, long, spreading, densely clothed with light brown, shining, shaggy hairs; *stipes* short, usually under 1 inch (sometimes of sterile fronds extending to 2 inches or more, and of fertile fronds still longer), slender, dark purple-brown, slightly roughish below, sub-cylindrical, channelled (with rhachis) on the upper surface; *scales* long at base and for some distance upwards; *fronds* pinnate; *sterile* ones sub-lanceolate, broadest near tips, flat, 7–9 inches long, 10–14 lines broad, pinnæ numerous, rather distant, sub-opposite, adnate and decurrent, coarsely and prominently veined, membranaceous and puckered, deeply and coarsely crenate-serrate, [347] almost sub-laciniate or pinnatifid-serrate, the most prominent teeth or laciniations usually bearing a minute hard white recurved tooth (sometimes two) on their tips; *colour* pale greyish-green; upper and largest pinnæ broadly linear-oblong, very obtuse and truncate, 6–8 lines long, 3–4 lines broad, suberect, confluent at top, terminal lobe deltoid very obtuse; lower pinnæ occupying considerably more than half of the frond, much smaller than upper, orbicular and gradually decreasing in size downwards; *fertile* fronds longer than barren ones, but more slender with fewer and more distant pinnæ; pinnæ opposite and alternate, distant, ligulate, largest  $\frac{1}{2}$  inch long, 1 line broad, apiculate, upper and larger ones slightly petiolate, terminal one subcaudate, lower ones excessively small; *involucrum* finely reticulated, margins entire; *scales* on stipes 2 lines long, flat, deltoid-linear acuminate, nerved longitudinally and much dilated at base. *Veins* conspicuous, simple and forked, extending quite to margin, clavate, very few and distant, usually only 4-jugate in the largest pinnæ, the lowermost one or two pairs not springing from the midrib (this character is also found in the smallest orbicular pinnæ), midrib usually forked at apex.

*Hab.* Great Barrier Islet, Thames, 1883: *Mr. C. P. Winkelmann.*

*Obs. I.*—A species having close affinity with *L. lanceolata* and *membranacea*, particularly the latter, but differing in several important particulars:—e.g., in its large normal sterile pinnæ being fewer in number and decurrent, and much more coarsely serrate, and fewer veined, with veins extending to margins and the lowermost not springing from the midrib; in its small orbicular and deeply crenate-serrate pinnæ occupying nearly two-thirds of the frond; and in all being more distant from each other on the rhachis; and in its upper fertile pinnæ being petiolate, and their involucres finely reticulate with entire margins.

*Obs. II.*—I have had several fully fronded plants containing together more than fifty specimens of barren and fertile fronds to look over, and their uniformity in habit and character is great; the plants differing only in size.

#### Genus 22. *Polypodium*, Linn.

##### *Polypodium rufobarbatum*,<sup>930</sup> sp. nov.

*Plant* terrestrial, sub-erect, wholly covered with long and stout red and shining jointed and moniliform hairs; *rhizome* creeping, densely hairy; *fronds*  $\frac{1}{2}$ –1 inch distant on rhizome. *Stipes* 1–3 inches long, and rhachis, slender, subflexuous, dry, channelled above, red, shining; *frond* 4–6 inches long, sublinear-ovate, acuminate, bipinnate, membranaceous, light green; *pinnæ* petiolate, distant and subopposite, deltoid-acuminate,  $\frac{3}{4}$ –1 inch long, 3–6 lines broad, spreading; *pinnules* sessile, distant, pinnate below, pinnatifid above, cut down quite to midrib of pinnæ, decurrent, linear-oblong, obtuse, [348] flat, 6–7 lobed, very uniform, ciliated all round with stout red hairs extending far beyond margin; *lobes* slightly crenate-toothed, never recurved over sori; *sori* large, round, reddish, bifariously disposed, one on each lobe on middle of veins, within margin, mostly three pairs on a pinnule; *veins* few, simple, and once forked, extending quite to margin, clavate at tips.

*Hab.* Skirts of woods, hills, between Norsewood and Danneverke, Waipawa County, 1882; *W.C.*

*Obs.*—A very graceful little fern of uniform growth and appearance, allied to *Polypodium rugulosum* and *Hypolepis distans*, but distinct from both.

#### ORDER II. LYCOPODIACEÆ.

##### Genus 2. *Lycopodium*, Linn.

##### *Lycopodium consimilis*,<sup>931</sup> sp. nov.

*Plant* gregarious; *rhizome* creeping, stout, white, glabrous; *stems* slender, erect, leafy from the base, 7–10 inches long, simple and branched; *branches* often again forked from near their bases; *leaves* nearly 3 lines long, squarrose, flat, linear-acuminate (occasionally forked), broadest at base and coadunato-decurrent, finely striate and shining, obsoletely nerved, margins revolute, slightly lacerate and jagged at tips, tips obtuse; green when young, yellowish-green when mature, often purple-tipped; *spikes* 5–6 on a branch, lateral and sub-terminal, cylindrical, peduncled, 5–8 lines long, lowermost longest, narrow, acute; *bracts* large, spreading, finely striate and shining, deltoid-acuminate, sub-awned, slightly keeled towards apex, margins serrate and jagged and sub-revolute, apices jagged (after the manner of the leaves but stronger); yellow-brown; *capsules* 3-lobed, turgid, with a small linear inner bracteole arising from base of capsule and embracing it.

*Hab.* Stony ground, White Cliffs, Great Barrier Islet, 1883: *Mr. C. P. Winkelmann.*

*Obs.*—A species having pretty close affinity with *L. laterale*, Brown.

**ORDER IV. MUSCI.****Genus 21. Encalypta, Schreber.*****E. novæ-zealandiæ*,<sup>932</sup> sp. nov.**

*Stems* closely tufted, very short, about  $\frac{1}{2}$  an inch high. *Leaves* green, sub-erect, oblong, obtuse, margin entire, midrib very stout below, not excurrent, glabrous; *perichaetal leaves* broadly ovate. *Fruit stalk* 3–4 lines long, red; *capsule* linear-ovate, compressed, smooth, shining, reddish; *calyptra* large, nearly 3 lines long, shining (satiny), finely striated, entire at the base (and, sometimes, finely toothed), tips smooth.

*Hab.* On ground, dry hills at Pohue, and at Petane, near Napier, 1882: Mr. A. Hamilton. [349]

*Obs.*—A species near to our only (hitherto) known New Zealand species *E. australis*, Mitten); and also, and nearer, to *E. vulgaris*, Hedw., a British and common European species, found also in Tasmania; but differing from both, and from all others known to me.

**ORDER V. HEPATICÆ.****Genus 7. Gottschea, Nees.*****Gottschea compacta*,<sup>933</sup> sp. nov.**

*Plant* of densely compact dwarf growth under 1 inch high, erect, closely imbricate, forming little patches, whole plant very tender and brittle. *Stems* rather stout, prostrate, dark claret colour, 1– $\frac{1}{2}$  inches long, with many fine dark pink rootlets below, sometimes two-branched near the tops, tops of branches decumbent, spreading, and then 4–6 lines broad, with leaves laxly imbricate. *Leaves* light green, pink at junction with the stem, very much waved and crisped, smooth, shining, semicircular, broadly elliptic and subquadrate in outline, margins entire, decurrent, sometimes very sparingly toothed towards base. *Involucral leaves* smaller, narrower, entire, conniving; *fruit stalk* 1 inch long, rather slender; *capsule* small, globose, black, minutely pitted; *stipule* 0.

*Hab.* On wet perpendicular clay cuttings among mosses, etc., near bridge of River Mangatawhainui, Norsewood, 1883: W.C.

**Genus 30. Symphyogyna, Mont. and Nees.**

This, hitherto, small and little-known genus having lately largely increased in additional and new species, I give a classification of them:—

**I. FRONDS STIPITATE, ERECT.**

1. Margins serrate.

1. *S. rubricaulis*.

2. *S. pellucida*.

3. *S. melanoneuron*.

4. *S. vulgaris*.

2. Margins entire.

5. *S. simplex*.

6. *S. megalolepis*.

7. *S. fætida*.

8. *S. longistipa*.

**II. FRONDS PROSTRATE, CREEPING.**

1. Margins serrate.

9. *S. prolifera*.

2. Margins entire.

10. *S. undulata*.

11. *S. marchantioides*. [350]

***S. rubricaulis*,<sup>934</sup> sp. nov.**

*Plant* terrestrial, gregarious, dioecious, each plant simple, suberect, stipitate, the largest from  $\frac{3}{4}$ –1 inch long including stipe, roots short succulent and hairy; *stipe* mostly 3–4 lines long (sometimes 9–10), flexuose, obsoletely angled, rosy-red, 1-nerved from base of frond to root (sometimes 2-nerved above), succulent, semi-transparent; *frond* (largest and fruit-bearing) broadly deltoid or fan-shaped in outline,  $\frac{1}{2}$  inch long,  $\frac{1}{2}$  inch broad at top, mostly 4-parted or subdigitate, sometimes simply once-forked, 1½–2 lines broad, and very truncate and undulate at base, not decurrent on stipe; *segments* under 1 line broad, nearly linear but broadest at base and narrowest at tips, margins serrate, serratures few, small, and irregular, none at tips which are obtuse and retuse, glabrous, transparent, minutely reticulated, areolæ oblong-pentangular regular; colour bright light green; *fructification* on upper surface of frond, single, on one side below forking of veins of forked fronds; *involucrum* a narrow linear-oblong laciniate scale; *peduncle* 10–11 lines long, slender; *calyptra* tubular, 2½–3 lines long, whitish, reddish at base, slightly roughish, mouth truncate, laciniate, with rather long fimbriæ; *fimbriae* brown; *capsule* 1–1½ lines long, linear, cylindric, finely striate, sub-acute and pointed, shining, black; *antheridia* on separate and much smaller fronds, closely placed on midrib and veins on the upper surface.

*Hab.* On shaded clayey banks, Seventy-mile Bush, near Norsewood, County of Waipawa, 1880–3: W.C. Glenross, near Napier, 1883: Mr. D. P. Balfour; fruiting in September.

*Obs.*—A species having affinity with *S. biflora*, mihi, and *S. hymenophyllum*, Hook., but very distinct from both. *S. biflora* bears its fructification on the lower surface and this species on the upper. This species grows thickly together in little beds or patches, with its fronds always inclining one way, half-nodding and overlapping, with its coloured fructification erect and some distance above them. Some fronds have three segments, others only two, and some a single one, which is then oblong-lanceolate. It is a very pretty neat little species.

**2. *S. pellucida*,<sup>935</sup> sp. nov.**

*Plant* gregarious stipitate erect, usually single, though sometimes two, or even three, are found united by a very short rhizome, 1–1½ inches high, 1½–2½ lines broad, commonly once-forked, sometimes single, and occasionally (though rarely) 3-branched, single fronds and segments generally linear-oblong and broader near tips, pagina of frond broadly decurrent to near base, slightly sinuate and waved, particularly below, transparent, margins very finely serrate, apices rounded, obtuse or slightly emarginate, nerve single, strong, and extending to tips, colour very light green; *stipes* very [351] short, 1–1½ lines long, with small fine rootlets at base; *fructification* on the upper side, scattered, mostly on nerve near the middle of the frond, sometimes

932 *Encalypta vulgaris* Hedw.

933 Not found. The name *Gottschea* is ambiguous.

934 *Symphyogyna hymenophyllum* (Hook.) Mont. et Nees.

935 *Symphyogyna prolifera* Colenso.

near the base, and sometimes at the forking but above it, and not unfrequently two on a frond; *involute* broad, subplicate, deeply and finely laciniate, sometimes three occur on a branchlet; *calyptra* cylindric, two lines long, whitish, glabrous, slightly rugulose, with delicate small fimbriæ at the mouth; *peduncle* slender, 8–12 lines long; *capsule* linear, obtuse, 1 line long, glossy dark brown, valves not cohering at tips; *spores* circular, presenting a ringed appearance; *cellules* very minute, chain-like, irregular in shape and size, mostly pentagonal.

*Hab.* On clay banks, sides of streamlets near Norsewood, 1878–83 (but barren): W.C. Petane, near Napier, September, 1883: Mr. A. Hamilton; profusely in fruit.

*Obs.*—A species having alliance with *S. subsimplex*, Mitten, and *S. prolifera*, mihi (*infra*), but very distinct from both. Occasionally, however, a frond is met with slightly rooting from its centre, below the fruit-point, or from becoming recumbent, and sometimes, though rarely, by throwing out lateral fronds from its base. A few young fronds are also found intermixed, very narrow long and pointed; these, I am inclined to believe, enlarge their pagina afterwards.

### 3. *S. melanoneuron*,<sup>936</sup> sp. nov.

*Plant* small, single (?), stipitate, erect; *frond* reniform in outline, 7–8 lines broad, 4–5 lines long, forked, once or twice divided, stoutish, wavy, colour dark olive, cellules small, oblong; *segments* few, sublinear-oblong, short, about 1½ lines or more wide, not divided deeply, not decurrent on stipe, very slightly and distantly serrulated towards bases not above, tips largely emarginate; *midrib* stout, almost black, not extending to tips, in some segments midrib forked at tips; *stipe* 6–9 lines long, stoutish, black-brown; *involute* small, simply 2–3 times notched, on upper surface at second forkings above, 2–3 on a frond; *antheridia* on lower surface, under minute ovate leaf-like scales, scattered on both sides of the midrib.

*Hab.*—On clay banks under ferns, &c., dark forests near Norsewood, 1879–83: W.C.; and at Great Barrier Islet, 1883: Mr. C. P. Winkelmann.

*Obs.*—This is another peculiar-looking species, of which I should have liked to have had better fruiting specimens. It is a rather scarce species and generally barren. I have long known it in this state, and I should not care now to describe it had I not been engaged lately in studying and working-up the several species I have described in this paper—besides my well-knowing all the other published N.Z. species of this genus. I have, therefore, no doubt of its being quite distinct as a species from all of them, although I find it hard to describe plainly in a few words its characteristic differences. [352] The ultimate segments of the fronds are remarkably wide and short, indeed, on some fronds, might more properly be termed lobes. The few specimens brought away by Mr. Winkelmann this year (1883) from the Great Barrier Islet, were also barren, and very similar.

### 4. *S. vulgaris*,<sup>937</sup> sp. nov.

*Plant* terrestrial, gregarious, diœcious, stipitate, erect, arising from a short stout rhizome, 2–3 springing together, or nearly so, 1½–2 inches high including stipe; *fronds* variously shaped, but mostly broadly fan-shaped in outline, 6–8 lines long, 9–10 lines broad at top, divided into two

main branches, each being dichotomous and sub-imbricate, angles of sinuses very obtuse, spreading; *segments* 1 line broad, mostly dilated with very large margins above forks, and deeply emarginate at tips, margins finely serrated extending down the decurrent wings of stipe, nerves thick throughout, not percurrent to tips; *colour* a light reddish- or lurid-green, cellules large oblong; *stipe* 1–1½ inches long, stout, sub-flexuose, broad and compressed and winged above, sub-cylindrical below, stoutly 2-nerved, sometimes 3-nerved above; *fructification* on upper surface of frond in the main forks; *involute* a rather broad trifid or deeply 3-laciniate scale with jagged margins; sometimes 3–4 observed on a frond, but invariably only one bearing a calyptra; *calyptra* large, tubular, 3–3½ lines long, slightly contracted at base, dilated and fimbriate at mouth, of a similar dirty-reddish hue as the frond; *antheridia* on separate and narrower fronds, rather loosely scattered in lines on both sides of main nerves under broad acuminate jagged scales.

*Hab.* Clay banks lower sides of deep water-courses, shaded forests, Seventy-mile Bush, Waipawa County, 1878–1881: W.C.

*Obs.*—This species is one of the largest and the coarsest-looking of all our known stipitate New Zealand species. I have long known it, but hitherto I have refrained from describing it in hopes of getting better specimens,—i.e., more perfect in fruit. The calyptæ of this plant often seem as if gnawed by some small insect. It appears to be pretty closely allied to *S. hymenophyllum*, Mont., and also to *S. rugulosa*, mihi, in its general appearance, but this latter species has entire margins, etc.

### 5. *S. simplex*,<sup>938</sup> sp. nov.

*Plant* diœcious; *frond* stipitate, erect, with no indication of a rhizome, simple, of varied outline mostly linear and sublinear-ovate, sometimes broadest at base and then deltoid-acuminate and subtruncate, 1–2¼ inches long including stipe, 1½–2 lines broad in the broadest part, slightly repand and waved, very thin, pale green, margins entire, emarginate at apices, mostly narrowly and very gradually decurrent half-way down stipe, midrib narrow, very prominent and keeled on both surfaces, light yellow-brown, not continued to tip, but continued downwards as a nerve within to the [353] base of the stipe; *stipe* 3–6 lines long, slender, rosy-red; *fructification* on midrib upper surface, nearer the apex than the base; *involute* small, trifid, laciniate, laciniations acuminate sharp; *calyptra* substipitate, stout, 1½ lines long, much fimbriated at top, dilated and laciniate at mouth; *peduncle* slender, short, 3–4 lines long; *capsule* large, nearly 2 lines long, linear, obtuse, truncate at base, light-brown; *cellules* pretty regular, suborbicular-pentagonal; *antheridia* under small deltoid jagged scales, in short linear masses on the midrib near the top of separate fronds, that are usually narrower and longer.

*Hab.* High and dry woods near Norsewood, 1878–1882: W.C. Pohue, high lands near Petane, Hawke's Bay, 1883: Mr. A. Hamilton.

*Obs.*—This small and simple species very much resembles some of the linear unbranched fronds of *S. subsimplex*, to which species it is closely allied; and indeed it was for some time by me taken for it, but on close examination and dissection I found several differences: e.g., this species is

936 *Symphyogyna hymenophyllum* (Hook.) Mont. et Nees.

937 *Symphyogyna hymenophyllum* (Hook.) Mont. et Nees.

938 Not found.

never branched or forked, has generally much more attenuated fronds with a keeled and coloured midrib, and longer stipes that are rosy red, its involucral scale is sharply laciniate, and, beyond all, it differs greatly in the form of its cellules, which, in *S. subsimplex*, are distinctly "hexagonal." It has caused me much study to determine its specific difference, for, though I have collected plenty of specimens, there are but few among them in full fruit.

#### 6. *S. megalolepis*,<sup>939</sup> sp. nov.

*Plant* terrestrial, gregarious, stipitate, erect, rising from a slender and long rhizome, roots stoutish, white, closely intermixed, each frond about 1 inch apart on rhizome; *frond* fan-shaped, flat, slightly waved, 6–8 lines long, 4–7 lines broad at top, divided into two main branches that are generally again once or twice divided; *segments* broadly linear, sub-imbricate, broadly decurrent on upper part of stipe, margins entire, apices sub-rotund and emarginate; *stipe* 6–9 lines long, slender, sub-flexuose; whole *plant* very pale green, delicate and highly transparent, cellules orbicular; *involucrum* on under surface, immediately above lowest fork of veins, very large, apparently double (?)—the outer scale being more than 2 lines broad at top, extending quite across lower forking, orbicular-reniform, loose and slightly waved, margin quite entire, the inner scale, as seen through the outer, small, green, and much laciniate, with a tumid swelling at the base—sometimes two involucral scales on a frond, the upper one smaller and above the upper fork, nerves throughout strong and extending quite to tips, and biserial in the upper part of stipe; *antheridia* under minute jagged scales, in scattered circular spots and tubercles, at forking of veins and on both [354] sides of the lower rhachis. A peculiar abnormal very narrow stout linear segment (nearly all nerve) arises vertically from forking of nerves in some fronds.

*Hab.* On rotten logs, forests, between Norsewood and Danneverke, Waipawa County, 1880–1882: W.C.; also young and barren, Great Barrier Islet, 1883: Mr. C. P. Winkelmann.

*Obs.*—Not yet detected bearing fruit; the supposed "inner scale," as seen through the clear outer one, may prove to be the laciniate tips of the undeveloped calyptra, but if so it is very large and coloured. I know of no New Zealand species bearing a large and plain outer scale like this; although that of *S. longistipa*, mihi, (*sp. nov., infra*) approached it; it is a striking characteristic. Some immature fronds have been noticed more strongly forked, the fronds beginning at 2–3 lines above the branching stipe.

#### 7. *Symphyogyna fætida*,<sup>940</sup> sp. nov.

*Plant* (? monococious) gregarious; rhizome stout, succulent, creeping under soil; *fronds* stipitate, erect, mostly 2 inches high, and about 1 inch apart on rhizome. *Stipe*, 1½ inch long, stout, green, succulent, sub-cylindrical, compressed and dilated at top, with sometimes small warted tubercles (?) antheridia) beneath on upper part. *Frond*, orbicular in outline when expanded, symmetrical, generally of a reniform appearance, 4–5 lines broad, 10–12 lines wide, multifid, divided into 2 (sometimes 3) main branches, each subdivided into 3 branchlets, and each branchlet again divided into 2–4 portions; *segments* numerous, usually 20–40, linear, entire, imbricate, slightly sinuate and waved,

obtuse and emarginate; *colour* (adult) dark green.

*Fructification* on the under surface (sometimes several on a frond), on the main stipe below first forking, and also on the branches above secondary forking, arising from a gibbous tubercle; *involucrum* a large sub-plicate scale, slightly laciniate; *calyptra* greenish white, cylindrical, broad, smooth, membranaceous, truncate and dilated at apex; *mouth* very minutely and regularly toothed—sometimes 3 calypters on a single frond; *capsule* (immature within), oblong, blackish.

*Hab.* In damp spots in dark woods, growing in large patches in rich soil near Matamau, Seventy-mile Bush, Waipawa County, 1883: W.C.

*Obs.*—A very distinct and fine species, possessing a most disagreeable smell, its strong *Algae*-like odour resembling that of *Chara fetida*; this strong smell is retained by long-dried specimens and emitted on their being soaked, filling the room with its stink. The single fructification on the main stem is surrounded by several largish scales, some longer than the others, reminding of those of *Steetzia lyellii*. The natural affinities of this species are with *S. flabellata*, *rugulosa*, and *longistipa* (*sp. nov., infra*), though largely differing from them all. [355]

#### 8. *S. longistipa*,<sup>941</sup> sp. nov.

*Plant* terrestrial, gregarious, stipitate, erect, rising from a slender and long rhizome, roots wiry, fronds generally 3–4 near each other, of irregular shapes and sizes, usually broadly sub-flabellate in outline, 6–9 lines broad, 4–8 lines long, forked, sometimes trifid and almost pinnate-pinnatifid, pinnae on long slender branchlets or petioles, segments short, flat, broadly sublanceolate-linear, sinuses round, margins entire, rounded at tips and deeply emarginate, not decurrent on stipe nor on branchlets; *stipes* 1¼–1¾ inches long, slender, subflexuose; whole *plant* darkish green; *involucrum* on lower surface immediately above forking, double—the outer scale being very large, loose and flabellate, margins entire, the inner scale much smaller and laciniate—several fruiting involucres on a frond, often four on a small frond all bearing fructification; *calyptra* white, cylindrical, transparent, 3 lines long, glabrous, mouth dilated, slightly laciniate or bifid, and finely and regularly toothed; *seta* 1–1½ inches long, slender; *capsule* large, cylindrical, linear, abounding after bursting in dark-brown elaters, which often remain hanging in pencilled masses; *valves* long, linear ovate, bordered; *spores* green; *antheridia* scattered beneath on the stipe, midrib and veins, under rather large open jagged scales.

*Hab.* On soil, margins of water-courses, deep ravines, shady woods, near Norsewood, 1883: W.C.

*Obs.*—A plant having close natural affinity with the preceding (*S. megalolepis*), but differing from it in several characters.

#### 9. *S. prolifera*,<sup>942</sup> sp. nov.

*Plant* terrestrial, prostrate creeping, cæpitoose, imbricated in growth, rooting at middle and tip of fronds, and thence sending forth other fronds; *fronds* very irregular of various shapes and lengths, but flat, mostly linear and very narrow, 1–3 inches long, 1–3 lines broad, obtuse, sometimes ovate-acuminate, 2–3 leaf-like fronds issuing from near base of

939 Not found.

940 *Hymenophyton flabellatum* (Labill.) Trevis.

941 *Hymenophyton leptopodum* (Hook.f. et Taylor) Steph.

942 Stet.

the short stipe, fragile, irregularly sinuate and serrate, very thin, transparent and pale green, midrib stout with fine short hair-like rootlets scattered below: fructification arising from midrib on upper surface, 1–2 on a frond, pretty close together or scattered; *involucres* very small, narrow, jagged, sometimes 2 scales or bifid; *calyptra* cylindric, 2–3 lines long, whitish, lacerate at mouth and slightly fimbriate; *peduncle* slender, weak, 1 inch long; *capsule* linear, cylindric, 1 line long, brown; *valves* cohering at tips; *elaters* and spores numerous, rich red-brown; *spores* circular, plain; *cellules* very small, oblong and irregular in size.

*Hab.* In rich black mould, wet shady woods, Seventy-mile Bush, near Norsewood, 1879–1882 (rarely in fruit): W.C.; and at Glenross, 1883 (fruiting plentifully): Mr. D. P. Balfour. [356]

*Obs.*—A species pretty closely allied to *S. rhizobola*, Nees, but differing considerably.

#### 10. *S. undulata*,<sup>943</sup> sp. nov.

*Plant* dioecious, of densely compact growth, procumbent, creeping, rooting from midrib below its whole length, apices free, branches frondose, 1–1½ inches long, 2–3½ lines wide, forked, linear, crisp, translucent, brittle, much undulated and sub-sinuate, margins entire, sub-involute, apices orbicular and emarginate; *colour* light green, *midrib* broad, dark, nerve indistinct with long brown hairy rootlets below; *fructification* from the midrib on the upper surface, 2–3 on a branchlet at a short distance from each other; *involucra* large, sub-flabellate, trifid and laciniate, sometimes surrounding calyptra, front and sides; *calyptra* cylindric, 1½–2 lines long, whitish, largely tuberculate and fimbriate, particularly at apex; *tubercles* at first white, succulent, soon becoming reddish-brown; *mouth* lacinate; *peduncle* 1–1½ inches long, rather stout; *capsule*  $\frac{1}{10}$ th of an inch long, cylindric, linear-oblong, obtuse, sub-apiculate, shining, dark purple-brown; *valves* cohering at apex; *spores* minute, orbicular, black and tuberculated; *elaters* geminal; *antheridia* in dense brownish linear masses, with minute fimbriated perigonial leaves on the midrib upper surface, running nearly the whole length of their branchlets.

*Hab.* On shady sides and hollows of decomposing and damp limestone rocks and cliffs, hills, at Petane, near Napier, September, 1883: Mr. A. Hamilton; most profusely bearing fruit.

*Obs.* This plant differs much in appearance from all other known indigenous species of this genus; it often presents a very peculiar appearance from its densely-clustered and regular manner of puckered contracted growth, a patch of it extending a few inches each way without break; at such times its regular form reminds one of the thickly-compacted small involute petals of a double *Dahlia*—and of the leaves of a small variety of our *Dichondra repens* closely compacted in growth, sometimes met with in patches on our dry upland heaths. It also grows over and on other frondose and larger *Hepaticæ* (as *Marchantia*), while minute *Hepaticæ* (*Jungermannia*, sps.) often grow over it. It bears fruit plentifully—some plants, or patches, bristling with capsules, while others alongside are wholly barren. Some of the larger specimens resemble in habit *Steetzia lyellii*. A smaller and still more densely-compacted variety has also been noticed, which is similar though reduced in all its parts.

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943 *Symphyogyna hymenophyllum* (Hook.) Mont. et Nees.

#### 11. *S. marchantiooides*,<sup>944</sup> sp. nov.

*Plant* procumbent, creeping, of irregular shape and growth, but somewhat spreading out into a circular form from a centre, adhering strongly to the soil; *fronds* pale green with a very broad and dark midrib, 1–1½ inches [357] long, 1½–2½ lines broad, simple, and branched once twice forked, linear, much sinuate and waved, brittle, margins entire, densely clothed below with brown rootlets, dilated at apices, which are round emarginate, and sometimes 3-lobed through extension of midrib; *fructification* on the upper surface; *involucra* usually trifid and sharply laciniate, sometimes 2–3 involucral scales scattered on a frond; *calyptra* large 2–2½ lines long, sub-stipitate, tubular, sub-infundibuliform, slightly rugulose with large and stout tuberculated fimbriæ; *mouth* oblique or bifid, sometimes 1–2–3 on a frond both below and above forks; *peduncle* 6–12 lines long, stout; *capsule* 1 line long, cylindric, obtuse, black, bursting in a round mass; *valves* narrow, slightly cohering at tips; *spores* black, circular, and muricated; *elaters* red-brown, geminate, twisted very closely, pointed at tips; *cellules* large, broadly-oblong, usually sub-quadrangular, but irregular in shape and size.

*Hab.* On clayey soil, damp shaded sides of watercourses, near Norsewood, 1880: W.C. Also at Petane, near Napier, 1883: Mr. A. Hamilton; sometimes creeping over stems of the larger mosses.

*Obs.*—This is a very peculiar-looking species, and one that, in its barren state, I should scarcely have deemed to belong to this genus, looking more like a *Marchantia* in habit, or even an *Aneura* (especially *A. imbricata*, sp. nov., mihi, *infra*), in the almost total absence of any central nerve. It serves, however, in its frond and habit as a natural approach towards those two allied genera. It is very distinct from all our other known species of *Symphyogyna*. When creeping over the stems of mosses it adheres but loosely and at intervals. It is so extremely brittle in texture that it is difficult to preserve or procure a good specimen. It is also a scarce species.

#### Genus 32. *Aneura*, Dumort.

##### 1. *Aneura alba*,<sup>945</sup> sp. nov.

*Plant* small, erect, densely compact, of dwarf moss- or scale-like growth, much resembling the small horizontal scales of some species of *Cladonia*; *frond* whitish or greenish-white, 3–4 lines long, main stems creeping, flattened, thickish, shining, under a lens microscopically bullate, sub-orbicular and cuneate in outline, sub-palmate, digitate and irregularly laciniate, lobes obtuse and retuse, abounding in fruit, sometimes a capsule to each lacinia, margins entire; *areoæ* rather large, confused not clear; *involucra* small, subovate, jagged, roughish; *calyptra* 2 lines long, much tuberculated especially at tip before bursting; *tubercles* in little lumps or fascicles; *mouth* nearly entire; *peduncle* 2–3 lines long, stout, striate; *capsule*  $\frac{1}{2}$  line long, narrow-oblong, purple-black, shining, striate.

*Hab.* Growing with mosses among grasses and other small herbage, shaded banks, Scinde Island, Napier, 1883: W.C. [358]

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944 Not found.

945 *Riccardia alba* (Colenso) E.A.Brown.

**2. A. bipinnatifida,<sup>946</sup> sp. nov.**

*Plant* prostrate and sub-ascending, straight and sub-flexuous, somewhat crisp, very brittle, 1–2 inches long, flat, linear, simple and 2-branched at base, bipinnatifid, main stem 1 line wide, margins entire, lobes or sub-branchlets opposite, sometimes sub-opposite or alternate, 1–3 lines long,  $\frac{1}{2}$  line wide, linear, pinnatifid sometimes simple, ultimate lobules very obtuse, retuse emarginate or slightly crenulate, tips sub-incurred; *colour* green; *involucres* springing from upper part of plant, large, irregular, torn; *calyptra* 3–4 lines long, cylindrical, white, clavate, papillose and finely pilose; *mouth* deeply toothed with 4–5 triangular teeth; *peduncle* 1 inch or more long; *capsule* cylindrical, oblong, finely striate, purple before bursting, rich chestnut-brown after; *valves* oblong-lanceolate, acute, 1-nerved; *elaters* and *spores* adhering in long pencilled masses at tips.

*Hab.* Among small herbage, mosses, etc., wet shady grounds, Scinde Island, Napier, August, 1883: W.C.

*Obs.*—A species near *A. palmata*, Nees; but still nearer to a Cape Horn species, *A. alcicornis*, Hook. fil.

***A. filicina*,<sup>947</sup> sp nov.**

*Plant* terrestrial, gregarious in small compact patches, dark green. *Frond* stipitate, erect, arising from a dark, creeping, rooting, rhizome, sub-coriaceous, somewhat rigid, brittle, broadly obovate, sub-tripinnate, 1½–2 inches high,  $\frac{3}{4}$ –1 inch broad, pinnæ opposite, rather distant, sub-bipinnate, sub-flabellate, much cut, lobes linear, narrow, truncate, laciniate, recurved, main rhachis nearly 1 line wide, apex truncate, branched nearly to base, stipe very short; *cellules* large, pentangular-orbicular, evidently two series or strata in the middle of lobes; *involucres* numerous, scattered underneath, mostly below axils of upper laciniae, and on main rhachis near top, composed of small sub-quadrangular whitish scales, each having a minute spur-like projection at its outer upper corners, truncate at top very minutely incised; *calyptra* near top of frond, 2–2½ lines long, cylindrical, whitish, minutely pubescent in transverse rings or lines, pubescence brown, a minute contracted brownish pencilled tuft at apex before opening, mouth (open) truncate and bifid; 2–3 calyptæ often very close together; mature fruit not seen, but only within calyptæ, capsule linear-oblong, blackish.

*Hab.* On wet clayey banks near watercourses, shaded forests, Norsewood, 1879–1883: W.C.

*Obs.*—A pretty species, evidently allied to *A. prehensilis*, Mitt.; hitherto only met with in a few detached spots, and there not plentiful, and rarely in fruit. The involucres have a sub-lunate appearance, reminding me of the outline (in miniature) of the caudine leaves of *Drosera lunata*. [359]

***Aneura orbiculata*,<sup>948</sup> sp. nov.**

*Plant* large, spreading, growing flat on rotten logs and over small mosses and *Hepaticæ*, in irregular oblong patches of 8–10 inches, adhering strongly; thickish, glabrous, light green, branches short effigurate, loosely imbricate, lobes 4–8 lines wide, orbiculate in outline, deeply crenate, hyaline at edges, spongy underneath with numerous short obtuse semi-rootlets. *Calyptra*  $\frac{1}{2}$  inch long, stout, cylindric, fleshy,

greenish-white, lacerate at top, top and edges disposed in minute tuberculated lumps, sparingly setose, hairs light-brown, more thickly set at top, some 3–5 together subfasciculate but diverging (as in prickly pear). *Fruit stalk* (seta) 1¼ inches long, white, shining, finely striated, striae twisted. *Capsule* large, 2 lines long, brown, oblong-lanceolate, splitting crosswise; *valves* spreading, pencilled at tips; *elaters* cohering.

*Hab.* In wet shady woods, between Norsewood and Danneverke, Waipawa County, 1876, etc.; in fruit, April, 1883: W.C.

*Obs.*—A very handsome plant, but rarely found in fruit; without fructification it might well be taken for an *Anthoceros*.

***Aneura imbricata*,<sup>949</sup> sp. nov.**

*Plant* spreading, flat, in patches of 4–6 inches, effuse, adhering pretty closely, sub-membranous, brittle, glabrous, green; *branchlets* or compound sub-foliaceous scales very numerous, irregular, laciniate, semi-convex, imbricated, ultimately much overlapping, lobes 3–4 lines broad, sub-orbicular in outline, margins sinuate, waved, and crisped, largely crenate, translucent, with very many short whitish-brown filiform rootlets issuing in pencils beneath, from middle of scales, and strongly adhering to those below; *calyptra* whitish-brown, erect, 4–6 lines long, cylindrical, stout, 1 line diameter, glabrous, having a broadly gibbous base; *mouth* bifid, slightly toothed and tuberculated with a few small scattered tubercles; *capsule* not seen.

*Hab.* On soil and on rotten logs, on the immediate low sides of deep water-courses, ravines, dark shaded woods, near Norsewood, October, 1883: W.C.

*Obs.*—A species having pretty close natural affinity with *A. orbiculata*, mihi (*supra*), but very distinct; their differences, however, are better and far easier seen in comparing the two plants while fresh, than can be described in words. Some allowance must be made for description of calyptra, as those seen (several specimens) were more or less slightly damaged through recent heavy rains flooding the channels where they grew.

**Genus 37. Fimbriaria, Nees.*****Fimbriaria gracilis*,<sup>950</sup> sp. nov.**

*Plant* gregarious; *frond* single, procumbent, 3–7 lines long, 1¼ lines wide, linear-oblong or linear-obovate, sinuate, incurved, edges thin and finely [360] crenulate, apex obtuse, sometimes (though rarely) emarginate and trifid, when trifid bearing 2 peduncles, light green, minutely and regularly papillose, with a continuous conspicuous purple band-like margin; *midrib* below stout, turgid, with diverging purple crescent scale-like markings, and a few fine hairy rootlets. *Female* receptacle sub-conical obtuse, 2–3–4-lobed, purplish-brown dotted with whitish spots, scarcely subpapillose, naked below except a few long white straggling hairs within perianths and immediately around apex of peduncle; *perianths* white, elliptic-conical, sometimes orbicular in outline and much depressed at tips, 12–14-fid; *segments* linear, flat and wrinkled, cohering at apex, hyaline and shining, netted, cellules irregular, sub-oblong-quadrangular; *peduncle*  $\frac{3}{4}$ –1½ inches long,

946 *Riccardia bipinnatifida* (Colenso) Hewson.

947 *Riccardia australis* (Lehm) Hewson.

948 *Aneura alterniloba* (H. & T.) Tayl.

949 Not found.

950 *Asterella gracilis* (F. Weber) Underw.

subflexuose, finely striated, shining, tetrangular and purple below, cylindrical and white above; spores deltoid- and rhombic-orbicular with netted intra-margins, edges entire.

*Hab.* On pebbly (conglomerate) and limestone strata, shaded banks, hills, various localities, Hawke's Bay 1870–83: W.C. At Petane, near Napier, September, 1883: Mr. A. Hamilton.

*Obs.*—An elegant little species, pretty closely allied to the other described N.Z. species of the genus, particularly *F. drummondii*, from which, however, it is quite distinct.

***Fimbriaria pallide-virens*,<sup>951</sup> sp. nov.**

A very small plant of densely compact growth and habit. Fronds much branched, tender and sub-succulent, undulate, very slightly papillose, light green above, whitish-green below, midrib stout with numerous fine rootlets, cellules appearing (when held between the eye and the light) as if disposed in feathery falcate lines diverging from midrib; branches 1–1½ inches long, dichotomous, sub-imbricate; branchlets ½–¾ inches long, 3–4 lines wide, oblong and broadly obovate, bi-trifid at tips, margins finely crenulate and hyaline. Female receptacle small, convex, smooth, pale green, with minute and faint white dots, 2–3–4-lobed, lobes broad, spreading, obtuse and retuse, margins entire or slightly sinuate, naked below; perianths globose, 6–9-fid, segments small, distant, deltoid-acuminate, sometimes two are joined together from base slightly diverging at tips, scarious, soon expanding; capsule large, early exserted, brown-black, bursting circumcisilely; spores rather large, orbicular and sub-stelliform, muricated; peduncles 1–1¼ inches high, rather stout, purple below, greenish-white above, sub-erect, flexuous.

*Hab.* Among and creeping over mosses, Hawke's Bay; Glenross, Mr. D. P. Balfour, growing densely: Petane, Mr. A. Hamilton.

*Obs.*—A strikingly pretty little species, nearly allied to *F. tenera*, Mitt. [361]

**Genus 39. Anthoceros, Micheli.**

***Anthoceros muscoides*,<sup>952</sup> sp. nov.**

Plant forming small dense moss-like patches, often circular, 2–3 inches diameter; light-green above, whitish-green below possessing there a blanched appearance; branchlets or fronds all erect, very compact and crisp, ½ inch high, narrow below, very much dilated above, much laciniate and jagged at margins, each branchlet usually incurved sub-cyathiform with involucrum arising from the central lacinia, sometimes two on a branchlet; involucrum cylindric, margin of mouth slightly scarious and slightly erose; capsules numerous, 2–2¼ inches long, at first erect acute and coloured green, brown at tips, black flaccid and drooping when mature; valves 1½ inches long, obtuse; columella exceedingly filiform, and, with spores, black; gemmae circular, scattered, immersed in substance of frond; rootlets numerous, fine light brown.

*Hab.* On damp shady sides of cuttings in white indurated clay hills, road, Seventy-mile Bush, Waipawa County, 1883: W.C.

*Obs.*—A well-defined and truly elegant little species.

951 *Asterella tenera* (Mitt.) R.M.Schust.

952 *Stet.*

**ORDER VII. LICHENES.**

**Genus 5. Sphaerophoron, Pers.**

***Sphaerophoron polycarpum*,<sup>953</sup> sp. nov.**

*Thallus* foliaceous attached at base, sub-erect, branched, effuse, under 1 inch high, loosely imbricate in growth like large irregular scales, light green above white below, branches and lobes broad dilated or narrow, laciniate and crenately toothed. *Apothecia* at the edges of laciniae or teeth, or sub-marginal below, many (8–60) on a frond, circular, light brown at first, with a narrow flat thalline border, afterwards black and hemispherical, becoming oblong and sub-confluent in age, capitulum girt by a narrow entire rim.

*Hab.* On trunks of aged *Fagus* trees in large patches, projecting horizontally, sub-alpine forests Ruahine mountain range, 1846–1852; always barren; but near Norsewood, bearing fruit plentifully, 1883: W.C.

**ORDER VIII. FUNGI.**

**Genus 10. Polyporus, Fries.**

***Polyporus (Mesopus) nivicolor*,<sup>954</sup> sp. nov.**

*Plant* glabrous, wholly pure white including stem, shortly pendulous, growing closely together, sometimes 3 or more springing from the same root and subimbricate. *Pileus* fleshy, thickest in centre thin at edges, sub-orbicular, oblong or reniform, 1–1½ inches diameter, concave and subcupshaped below, convex and obsoletely zoned and veined above, margin distinct, delicately thin, irregularly but neatly crenate and subincised, revolute; *stem* a continuation of pileus, short, thick, obconical, nearly central; *pores* rather large, subrotund and angular. [362]

*Hab.* On decaying logs, in dense forests between Norsewood and Danneverke, Waipawa County, 1883: W.C. Only observed in two spots, yet there plentiful.

*Obs.*—A beautifully white species, graceful bivalve-shell-like; naturally allied to *P. phlebophorus*, Berkeley; a plant also discovered in forest 60 miles further south by W.C.

**Genus 23. Aseroe, Labill.**

***Aseroe corrugata*,<sup>955</sup> sp. nov.**

*Stipes* sub-cylindrical, stout, 1½ inches long, obconical, 1 inch wide at top, ½ inch wide at base, smoothish or slightly rugulose, sub-translucent, nerves reticulated, a rectangular hole at centre of base, 2 lines long and 1 line wide; colour white. *Rays of pileus* 6, of a brilliant red colour, darker within, conniving, 1¼ inches long, 2 lines broad at base, deeply transversely and irregularly rugose and wrinkled on both surfaces, but more so on the upper side, the outer lower margins angled and broad as if ribbed, each ray continuous with stipe on the outside and forked at ½ inch from its base, and thence bearing a deep central groove downwards to stipe, very acuminate, subulate towards tips which are twisted, a tolerably large irregularly shaped hole at the base of each bifurcation on the upper side; the large *central aperture* above in the pileus at the bases of the rays is 6-angled with small papillose portions of the rays projecting

953 *Calcidium cuneatum* Stirton.

954 *Gloeoporus phlebophorus* (Berk.) G. Cunn.

955 *Aseroe rubra* Labill.

into the centre. *Volva* small, globular or broadly obovate, about an inch in diameter, rugulose, sessile, dark umber-coloured on the outside, white within; *roots* central, long, white, spreading and much branched.

*Hab.* In forests, Te Aute, Hawke's Bay, April, 1883: Mr. C. P. Winkelmann. Woodville, from settlers there: W.C.

*Obs.*—Among several good specimens, one has 7 double rays; another has two stipes, united near to the base of the pileus, thence diverging and bearing together 8 double rays, one of them being very broad and divided into 4 single rays. According to the Woodville settlers, this species is fatal to their cats; they say that their cats eat it, being fond of it, and die soon after. This plant is evidently allied to our two other New Zealand species, *A. rubra* and *A. hookeri* (as well as to the few known foreign species), but is abundantly distinct from them all.

#### Genus 27. *Geaster*, Micheli.

##### *Geaster coronatus*,<sup>956</sup> sp. nov.

*Outer peridium* about two inches diameter, expanded, flattened at base, thickish, divided half-way down into 7 pretty equal broadly triangular obtuse sub-erect segments, semi-papillate and dark brown on the outside, blackish-brown and densely pubescent on the inside, with a continuous raised border at their inner bases; *inner peridium*  $\frac{3}{4}$  inch diameter, globular [363] and smooth, sessile, perfectly free all round, reddish-brown, darker towards the top, and there thickly covered with minute black dots, having a depressed orbicular coronula 2 lines diameter, roughish, slightly rising in the centre with a small plain ostiole.

*Hab.* On ground, forests near Norsewood, 1883: W.C.

*Obs.*—A species having some affinity with *G. archeri*, Berk., a Tasmanian species.

##### *Geaster affinis*,<sup>957</sup> sp. nov.

*Outer peridium* sessile,  $3\frac{1}{4}$  inches diameter expanded, flat on the ground, marked with 2–3 concentric rings on outside near base, thin, light brown and smooth outside, divided into 8 narrow deltoid-acuminate acute segments, cut down nearly to the base, segments roughish and darker-brown inside; *inner peridium*  $1\frac{1}{4}$  inches diameter, globular, light tawny, sessile, free to base, with a ridge running round the inside, about 3 lines below bases of segments, at top a small coronula, 3 lines diameter, subuplicate, mouth elevated, large, conical, more than 1 line diameter, laciniated.

*Hab.* On ground, elevated woods, at Glenross, 1883: Mr. D. P. Balfour; and other places near Napier, 1883: W.C.

*Obs.*—A species near to *G. tenuipes*, Berk.,—also a Tasmanian species.

#### 1884 Description of a small lizard, a Species of *Naultinus*, supposed to be new to Science.

*Transactions of the New Zealand Institute* 17: 149–151.

[Read before the Wellington Philosophical Society, 1st October 1884.]

956 *Geastrum coronatum* Colenso.

957 *Geastrum affine* Colenso.

##### *Naultinus versicolor*,<sup>958</sup> sp. nov.

GENERAL COLOUR.—Above light brownish-black or dark grey, spotted with small dark spots; six broad dark-umber zig-zag, or double VV, shaped bands across the body, and nine similar ones across the tail, 15 in all, and [150] regularly placed, having lighter scales in the anterior angles; a dark line from the lower angle of eye to that of mouth, and another from the upper angle of eye to over the ear; a narrow dark transverse band from eye to eye in front, and a cross dark band (St. Andrew's Cross) on vertex; below of a light-greyish colour with small dark spots.

Vertex depressed; eyebrows very prominent (porrected) with 2–3 rows of dark pointed scales, upper row black: snout very obtuse; on both upper and lower lips, 11 large greyish scales on each side of the rostral ones which are much larger, but the upper rostral is larger than that of the chin, and extends to the nostrils; two large scales immediately above the upper rostral one, and four similar scales around each nostril; nostrils circular; aural apertures oblong, large. A number of small pointed simple glassy teeth in both jaws; tongue roundly-spathulate, very long and extensible, thin, deeply emarginate, red; the palate salmon-colour. Body narrow and round, back arched, not broad and flat as in *N. pacificus*. Toes all regularly barred with blackish lines; the fourth toe is the longest on each foot, and at a great distance from the fifth one on the hind feet, the soles also of the hind pair are large and flat. Its tail is very prehensile, so that it can curl its tip around a lead pencil, or a quill, and swing thereby; it can also hang by a single toenail (which are exceedingly sharp pointed and curved) and so remain for a short time; it also leaps well and fearlessly from a height of 2–3 feet. Length—head and body, 4 inches; tail,  $4\frac{1}{2}$  inches– $8\frac{1}{2}$  inches.

*Hab.* In forests near Norsewood, County of Waipawa; 1883: W.C. Also at Glenross, County of Hawke's Bay; 1884: Mr. D.P. Balfour.

*Obs.* I obtained two fine living specimens of this lizard last summer while in those woods; and one since, a smaller one, also living, from Mr. Balfour; this last is still living, although it has not eaten anything since I received it nearly six weeks back. It has only taken at intervals of several days a very little water, and this when I put it into a wash-hand basin to take a swim; when, on taking it out, it invariably licks up a few drops. Hitherto it has refused flies, as food, which my other lizards always greedily ate; and I have supposed such might be owing to its hibernating season not being over. It is exceedingly quiet, and rarely moves about. Their peculiar and regular double VV dark and variegated bands are the same in all three specimens; but it is not from that fact that it derives its trivial name, but from a much more strange one (though not wholly unknown to the family), viz., it often changes its ground-colour of grey to a pink-red, and this it does sometimes three or four times in a day; the cause, however, of its doing so is wholly unknown to me. I have often tried, by altering its position as to light, and to heat (sun), and also by giving it a little gentle shaking (in its glass house!) if I could cause it to change its colour, but I [151] have never once succeeded; it seems to be entirely dependent on itself (possibly emotional), and not arising from any outward cause—nor from the time of day; neither is it regular in its changes. At first, I was a little astonished, and could scarcely believe my own eyes, until I

958 *Hoplodactylus granulatus* Gray.

had repeatedly proved the event; the change of colour is always equally the same, extending all over its body.

This lizard is also infested with a tiny red parasite, that sticks on between its scales in the outer angles of the thighs of its hindlegs, where it lives together in little clusters of 12–16. This parasite has a thickish body, rather soft, and is very difficult to remove entire. I suppose it to be an insect of the *Hemiptera* order. I have sent specimens of it to Professor Hutton at Christchurch, and to Mr. Maskell at the Museum, Wellington, for examination, etc.

### 1884 A description of some newly discovered New Zealand insects believed to be new to Science.

*Transactions of the New Zealand Institute* 17: 151-160.  
[Read before the Wellington Philosophical Society, 1st October, 1884.]

#### INSECTA. Order ORTHOPTERA

##### Section GRESSORIA.

##### Family PHAOMIDÆ.

##### Division APTEROPHASMINÆ.

##### Genus Bacillus

##### 1. *Bacillus coloreus*,<sup>959</sup> sp. nov.

*Female*: General colour light green; the two basal joints of antennæ (under-surface), the throat, and the upper long curved ends of anterior femora bright pink-red.

Head oblong, rather narrow, 8–9 short scattered muricated points on vertex; occiput broad, width of prothorax; maxillary palpi finely pubescent; antennæ 12 lines long, very slender, cylindrical, pubescent, composed of 22 joints, articulations pink-red, the basal joint large broad and flattish and green on the upper surface, the second basal very small, the rest large, brownish-green with a pink tinge, increasing in size to apex.

Body mostly smooth, 3½ inches long, stout, increasing in size to 3rd abdominal segment where it is 3½ lines wide, a narrow slightly-winged crease or fold with a light-yellow margin extending downwards from anterior legs, giving the appearance of double side margins to the abdomen, which is 19 lines long; a small triangular central dark-brown spot at occiput, another at lower end of pronotum, with a very narrow dark line [152] connecting them; a similar spot at lower ends of meso- and metanotum, and one at the lower end of every joint (*sternites*) of abdomen, these latter are reddish; prothorax 3 lines long, plain; mesothorax 8 lines long with a few scattered small green points and two larger ones (small spines) on the mesonotum; metathorax 7 lines long and (with mesothorax) broadest at the lower end.

Legs long, rather slender, triangular, striated; striae pinkish-brown; 2 small spines at lower ends of tibiæ; tarsi very pubescent, tibiæ slightly so, also the anterior femora between spines; unguis large, divergent, glabrous, piceous: anterior pair, femora much shorter than tibiæ, and deeply

excised at upper end for more than 2 lines; 5 coloured distant spines on lower outer margin, the upper outer margin sinuate and uneven, with a tubercle on each side under coxæ; coxæ large, stout, brownish, wrinkled: middle and posterior pairs with 4 small brown spines at lower end of femora. Ovipositor large, rounded and slightly pubescent; anal appendages thin at tips pubescent.

The eggs of this insect are peculiar and worthy of a full notice. They somewhat resemble the seeds of a flowering garden-pea; being slightly sub-4-angled in compressed parallelograms 2 lines long and 1 line broad, of a reddish-grey or light chocolate colour, a transverse section, being linear-elliptic; their ends truncate with margins produced and rough, one end convex and one end umbonate with a little produced central boss or blunt mucro; the shell is crustaceous, slightly hardish, roughish, and much furrowed irregularly with impressed angular markings rather prettily disposed; one of the lateral edges is smooth, produced a little and thickened, having near the narrower end of the egg a large ovate depression with a raised little seam around it, resembling also the hilum of a leguminous seed: nine eggs weigh two grains.

A female, that I kept alive for some time under glass, laid 54 eggs in a fortnight, in the latter half of June; this she did by merely dropping them, without moving or showing any solicitude. She lived for three weeks, feeding on the bark of the young branches of arbor-vitæ (*Thuja occidentalis*), which she greedily ate, gnawing it off all round very cleanly. The faeces were plentiful and regularly formed in small narrow cylindrical brownish roughish rolls, 1½ lines long, somewhat resembling the withered tips of the branchlets of the shrub on which she lived.

*Hab.* At Pouerere, E. Coast, near Blackhead, County of Waipawa; 1884: Mr. Wm. Scott.

*Obs.* I. I have subsequently (two months later) received from Mr. Scott another living specimen of this insect, also a female, and precisely agreeing with the former one received from him. This second specimen, however, [153] was not pregnant (very likely had laid her eggs before capture), she would not eat and only lived a few days. And again, since writing the foregoing, I have received from him a third specimen, this one being a male; it is smaller and slenderer and more smooth, but agreeing in every other particular.

II. As a species it is apparently allied to *B. hookeri*, but very distinct. In its many and bright colours, the configuration of its head and anterior femora, it approaches species of the allied Australian genus *Phasma* (*Diura*).

##### 2. *Bacillus filiformis*,<sup>960</sup> sp. nov.

Colour fulvous irregularly variegated with brown.

Head dull-grey, sub-triangular, broadest in front, convex at vertex, smooth; eyes very prominent at angles, neck narrow; antennæ setaceous, 1½ inch long, very roughly pubescent, brownish-yellow ringed with 23 black knobbed joints (reminding of a miniature stem of *Dendrobium lessonii*), apical joint longer than each of the three following, and the middle joints longest, with a small whitish protuberance on each horn about the middle.

Body very slender, length 4 inches, breadth 1 line, a little more at joints of abdomen; prothorax very small, 2 lines

959 *Clitarchus hookeri* White.

960 *Argosarchus spiniger* White.

long, smooth, with a central longitudinal ridge; mesothorax 11 lines long, with several large spines above and below; metathorax 10 lines long, one pair of spines above, four below; spines distant, stout, coarse, black; abdomen knobbed at joints, two spines below first segment, with a small tubercle under each joint on the sides; appendage broadly triangular, tips finely pilose; anal extremities obtuse, thickened.

Legs very slender, striate or sub-angular, pilose; unguis small, pubescent: anterior pair, two small spines at lower end of femora, tibiae tetragonal,  $1\frac{1}{4}$  inch long, much longer than femora: middle pair, with six stout black spines at lower end of femora, and one very small spine on the inner margin at  $\frac{1}{4}$  of the length from coxae, and a small elevated spine on outer margin of tibiae at  $\frac{1}{4}$  of the length from the basal joint: posterior pair with two small spines at the lower end of femora.

*Hab.* Woods, Seventy-mile Bush, Waipawa County; 1883: W.C.

*Obs.* A peculiar dry-looking, rigid, slender form. Apparently a scarce species; only one perfect specimen seen.

### 3. *Bacillus minimus*,<sup>961</sup> sp. nov.

Colour light green. Body smooth,  $8\frac{1}{2}$  lines long,  $\frac{1}{2}$  line broad. Head 1 line long; antennae 1 line long, pinkish, finely pubescent, composed of 9 joints, the lowest two light green, basal large flattish, the apical one longest linear-oblong obtuse. Thorax (notum) with a central pinkish longitudinal broad stripe, vanishing at sides; prothorax  $\frac{3}{4}$  line long, slightly wrinkled; mesothorax  $1\frac{1}{2}$  lines, metathorax  $1\frac{1}{4}$  lines, long; prosternum a triangular scale with a rounded apex. [154] Legs finely striate; two minute spines at the lower end of femora; anterior pair of femora with a long ridge on the upper margin; tarsi and tibiae finely pubescent; lowest joint of tarsus flat, broad. Abdomen 4 lines long; anal appendages finely pubescent. Weight barely 2 grains.

*Hab.* On trees and shrubs, Norsewood, Waipawa County; 1884: W.C.

*Obs.* This interesting, slim, delicate, and fairy-like little creature, is by far the smallest species of the genus known to me; it differs in several respects from its congeners, particularly in its antennae. It moves very slowly. At first I had supposed it to be merely the larval state of one of the larger species, but its fully developed antennae, etc., forbid such a supposition.

### 4. *Bacillus atro-articulus*,<sup>962</sup> sp. nov.

*Female:* General colour greenish-grey blotched with brown, bearing a slight iridescent hue. Head ochraceous, oblong, 3 lines long, wider than prothorax, genae gibbous, vertex depressed, a sub-lunate ridge between the eyes, with two small pits (foveolæ) between ridge and base of antennæ; nine large black spines on the occiput, and a single tubercle just above each eye; antennæ slender, pubescent, 10 lines long, composed of eighteen joints, apical one the longest; palpi pubescent. Prothorax 2 lines long, two black spines at lower edge of pronotum; prosternum smooth: mesothorax  $7\frac{1}{2}$  lines long, six spines in three pairs on mesosternum, several scattered and one large pair of black ones central on mesonotum, and a regular longitudinal row of five small

spines on the pleura extending down to intermediate coxae: metathorax 8 lines long, two pairs of spines on metasternum and three pairs on metanotum, with a similar row of five small spines on pleura extending to posterior coxae.

Abdomen rather stout,  $1\frac{3}{4}$  inches long, mostly smooth, wrinkled longitudinally below; two short blunt spines above on apical end of each segment, decreasing gradually in size downwards; two small tubercles below at apical end of the first segment, the end of the sixth segment has foliaceous sides and one large central spine below, with a thick ridge running from it to the middle of sheath of ovipositor: anal appendages large bearing scattered black hairs. Legs rather short; all having a ridge of double black spines at the apical ends of femora, and two spines at apical ends of tibiae, and all joints black at their apical ends, but the terminal joints of the tarsi are light glaucous-green; tarsi and unguis are very hairy, the tibiae and femora slightly so; hairs black:— anterior pair, coxae with two black spines below; femora 10 lines long with four sharp angles deeply sulcated between, bearing a single row of six large spines on the lower edge, the upper edge sinuous and bearing three minute and distant spines; the upper excised portion 4 lines long with an elevated sharp ridge; tibiae of equal length, very slender, smooth; the basal joint [155] of anterior tarsi longer than those of the two posterior pairs: middle and posterior pairs, femora four-angled, narrow above broad and flat below with spines on all four edges; of the middle pair the femora and tibiae are of equal length, 7 lines long, with an elevated spine on the outer edge of the tibiae at the upper end: posterior pair, femora and tibiae also of equal length, 8 lines long.

*Hab.* Seventy-mile Bush, near Norsewood, County Waipawa; 1883: W.C.

*Obs.* I may also note that this specimen had lost its anterior left leg, and that a new one was growing to replace it. This new leg is very small and slim, less than 1 inch in total length, but agreeing in all minute particulars with the right one, save that its more salient points were not fully developed. I suspect this loss of limb is a matter of rather common occurrence among the *Bacilli*,—from the great length of their slender legs, their habitat among the green leaves of trees in the exposed windy branchlets, and their known fighting and cannibal propensities. I have already noticed an instance of similar mutilation, in my description of *B. sylvaticus* (Trans. N.Z. Inst., vol. xiv., p. 278).

## Section SALTATORIA.

### Family LOCUSTIDÆ.

#### Genus *Deinacrida*

### *Deinacrida armiger*,<sup>963</sup> sp. nov.

*Male:* Whole insect smooth and shining and variously coloured.

Head large, oblique, broadly ovate, 1 inch long, rather wider than prothorax, bright dark red-brown, vertex much convex; eyes prominent sub-pyramidal; antennæ setaceous,  $3\frac{3}{4}$  inches long, light brown, finely and densely pubescent; a lighter-coloured ridge between eyes and antennæ with a linear oval centre; clypeus black with a narrow white lower margin bearing two dark longitudinal streaks; genæ rugose, protuberant, black; labrum large, emarginate, brown; palpi light tawny, largely clavate, tips sub-globular, whitish, pubescent; mandibles large, black and toothed, sub-

961 *Argosarchus minimus* Col.

962 *Macracantha prasinus* Westw.

963 *Hemideina crassidens* Blanchard.

rugulose, the left mandible larger and overlapping. Thorax: pro-thorax 4 lines wide, concave, sub-rugulose, whitish with a slightly reddish tinge, and blackish markings resembling a shield and its two supporters, and with narrow black anterior and posterior margins, side-margins slightly reflexed; mesothorax 2 lines wide, reddish-brown, with two minute black markings and a black dot on each side; metathorax 1 line wide, of a similar colour and two black dots; sternum of thorax, coxae, and femora below, light fulvous-red. Abdomen thick, convex, compressed, 13 lines long, much arched at second and third segments, light reddish-brown, irrorated, with blackish bands on lower margins, of segments, and a reddish-pink hue on the lighter-coloured parts; anal appendages greyish, pubescent, Legs: [156] posterior pair very stout and long, femur and tibia each about 10 lines; anterior pairs much smaller; anterior and intermediate coxae armed with a large light-fulvous spine; the upper surface of all femora whitish with a reddish tinge, smooth, each having three longitudinal lines of short dark-brown diagonal streaks on the outer, and two lines on the inner side, but on the posterior pair those two inner rows possess short muricated points, this latter pair is also sulcated on the lower side and black at the lower end, and bears five spines on the outer and six smaller ones on the inner edge, each row gradually increasing in size downwards; posterior tibiae very stout, dark brown, triangular, four large spines on the outer and five on the inner edge, and five spines together at the lower ends; anterior and intermediate tibiae 7 lines long, brown, each having five pairs of spines on the lower edge, and two spines on the upper edge at the lower end; a sunken oval depression 1½ lines long, covered with a bluish-grey spotted and thin membrane, on both sides of anterior tibiae near the upper end: tarsi, brown, hairy; ungues and tibiae slightly so; pulvilli (or four cushions on sole) remarkably large, hemispherical, glabrous, bluish-grey.

*Hab.* Wairoa, Hawke's Bay, whence received in spirits; 1884: W.C.

*Obs.* This is both a peculiar and pretty species, something dapper and taking about it, from its many and bright contrast colours; the dark markings on the light ground of the prothorax are symmetrical and curious, and closely resemble a 6-angled shield with its two supporters! Hence its trivial name. It seems allied to *D.* (or *Hemideina*) *megacephala*, Buller; and possesses characters belonging to those two genera,—if they are really and naturally distinct, which I doubt.

## Order NEUROPTERA

### Family MYRMELEONIDÆ. Genus *Myrmeleon*

#### *Myrmeleon novæ-zealandiae*,<sup>964</sup> sp. nov.

Body slender, densely pubescent, black above and below, sub-iridescent, with yellowish joints to abdomen, and a broad grey lateral stripe running down each side that is less hairy; extremity of abdomen brown with whitish spots, and a tuft of longish black rigid hairs; abdomen much shorter than wings. Head, vertex and thorax glabrous, with a few longish soft hairs on prosternum and at junctions; piceous-brown above, yellowish and spotted with brown below and at base of antennæ; clypeus large and labrum yellow, with 4–5 dark hairs on the latter; mandibles large piceous; palpi

light brown, dark at tips; eyes very large and prominent, metallic-greenish, shining, with, innumerable facets; antennæ 3 lines long, diverging, curved, bluish-black, the two basal joints whitish spotted with brown, clavate with a mucro, annulate, about 30–32 rings, with very fine short verticillate hairs; [157] prothorax small; mesothorax curved upwards and projecting shell-like over prothorax, with a loose space between neck and pronotum, and a larger one between prothorax and mesothorax. Legs hairy, piceous-black, with two large spines (spurs) at lower end of tibiae; femora yellow above, brown at lower end; ungues long, diverging and bright red-brown. Wings iridescent, brownish, finely ciliate with dark hairs, densely reticulated, cells all shapes and sizes, but more regularly rectangular on sub-median vein, and largest between sub-costal and median veins, pilose with long dark and rather distant hairs on all veins and bands; spotted generally with brownish dots and markings, that are somewhat sub-quadrata at bands and triangular at forks (and sometimes broadly so at bands), outer edges irregular and not defined, the centre of the wings free of spots, also the costal cells from base to stigma: anterior wings (each) 1½ inches long, 5 lines wide, sub-oblong-lanceolate, dimidiate, much contracted at base, obtuse-pointed at tip, apex inclined below; stigma oblong, whitish-yellow (or light cream-colour) with short dark hairs, a large black-brown spot at the basal end, and a brown blotch opposite between sub-costal and median veins, and another blotch directly opposite towards lower margin; costal vein yellow at base and gradually becoming brown; sub-costal vein double for about two-thirds of length of wing—from ¼ inch from base on to stigma, and without bands between,—yellow with brown dashes at junction of bands, and on sub-median vein below; ante-cubitals straight, simple; post-cubitals forked and sloping, a few in the centre forming cells; posterior wings each 1¼ inches long, 4 lines wide, sub-linear-oblong, more acute, and less and more finely spotted than anterior pair; spots mostly triangular in forks below stigma and about tips; stigma rather large, oblong, whitish; a brown blotch opposite stigma and near the lower margin.

Length of the body 16 lines; of the wings extended 38 lines.

*Hab.* Seventy-mile Bush, Waipawa County; (rare, like other species of the genus; three specimens only obtained with much difficulty); 1882–83; W.C.

*Obs.* A very elegant insect, in form, colour, iridescence, and finely hairy and ciliated wings; in this latter respect closely approaching the next sub-order *Trichoptera*. It seems to have some affinity with our only other and little-known New Zealand species of this very large and cosmopolitan genus,—*M. acutus*, Walker, (B.M.),—judging from description only; but it is very distinct.

The larva is ovate, thick, fleshy, largely convex above, 6–7 lines long, 3 lines broad, of a reddish-grey hue, spotted with brown and black. Head 1 line long; mandibles 1½ lines long, curved, hairy, grooved on lower surface, each having three large and stout curved spines on the inner margin; [158] antennæ very small and slender at base of mandibles. Two large brown spots sub-lateral on metanotum; two smaller ones similarly situated on mesa- and pronotum. Abdomen of a lighter colour below, with eight transverse and equal corrugations above, each having five black hairy spots running in regular lines longitudinally. Legs (and mandibles) yellowish-brown, very hairy with spreading black hairs; ungues of posterior pair large, divergent, piceous. Hairs of two kinds: (1) whitish, downy, and

appressed; (2) black and bristly, and often in tufts, which are larger at the sides, the largest pair of tufts are marginal just opposite to the posterior legs.

*Hab.* Hampden, Waipawa County; 1882: Mr. S.W. Hardy.

*Obs.* This species makes its pitfalls in sandy earth, just like the European species *M. formicarum*. I kept several of these larvæ alive for some time (2–3 months) in light dry soil, they seemed to bear fasting very well. This is a much larger larva than that of *M. acutus* (?), which, I think, I knew, and often watched its habits, at the North, in forming pitfalls, etc., in sandy spots; though I never met with the perfect insect of that species.

#### Order HYMENOPTERA

##### Sub-Order PUPIRORA.

##### Family ICHNEUMONIDÆ.

##### Sub-Family *Pimpilinæ*.

##### Genus *Rhyssa*

##### *Rhyssa clavula*,<sup>965</sup> sp. nov.

*Female:* Abdomen a rich dark-red-brown variegated with yellow: thorax, antennæ (basal ⅓), ovipositor and its sheaths much darker brown almost piceous.

Head: orbits of eyes and post-clypeus yellow; two vertical ferruginous lines from base of antennæ to mouth; three ocelli in dark central band a little above the eyes; antennæ filiform, curved, 13 lines long, finely annulate (above 50 joints), and under a lens covered with excessively minute whitish lines, very slightly and finely hairy, basal joints knobbed with yellow margins, the lowest the longest, apical third flavescent, the 3 apical joints light-ferruginous: clypeus dark-margined, enclosing a light-ferruginous triangular spot having a transverse red line, and a shorter brown one above it; labrum dark almost piceous (this dark band also surrounds the mouth); palpi light ferruginous.

Thorax: the mesothorax transversely and finely ruguloso-striate; a large semi-curved triangular yellow spot on pleuræ of prothorax, another below junction of anterior wings, a smaller one above the junction (transversely barred with a narrow dark band), the bases of the wings, the scutellum, post-scutellum, and the apical portion of the metathorax (encircling [159] the insertion of the abdomen) yellow: wings, iridescent, infumated, hairy at bases, and sparsely sprinkled with very minute hairs; principal veins reddish-brown, cross veins blackish. Legs: all the femora, and the coxæ and tibiæ of posterior pair, very dark ferruginous; the coxæ of the two anterior pairs and all trochanters yellow; all the tarsi, and the tibiæ of the two anterior pairs, light red-ferruginous; a pair of large spines at the apical ends of posterior tibiæ. Abdomen smooth and shining; at the apical ends of the 1st and 2nd segments a broad yellow fascia trifid basally, the extreme apical margins dark-coloured; the 2nd segment has also a lateral linear yellow spot; each of the four following segments has a longitudinal oblong yellow spot in the middle above, and also an elongate yellow one laterally, the lateral ones in the 3rd, 4th, and 5th, occupying nearly the whole length of the segment; the 6th has three yellow lateral spots; and the two following segments have yellow stripes extending to the apical segment, of which the margin is dark-coloured; the minute anal styles at top flavescent; the end of abdomen very thick, largely revolute, and there 5 lines in diameter. Ovipositor setaceous, stiff,

slightly curved, 2½ inches long, its two sheaths ciliate and finely serrulate at margins, and coiled up (in spirits); tips sublinear-spathulate, concave, obtuse, membranous, light-coloured.

Length, direct and plane, 18 lines; or, to extreme end of curvature, 22 lines.

*Hab.* High and dense forests near Norsewood, Waipawa County; April, 1884: W.C.

*Obs.* This fine insect is entirely new to me; and from its being so large and so striking I conclude it to be scarce. None of the many residents in that locality had ever seen one before, and were much struck with its size and handsome appearance. For a long time I have been in doubt whether it is not *Rh. fractinervis*, Vollenhoven; which species, in spots and markings, it greatly resembles, and it is only after long and close study of it, and comparing it with the description given of *Rh. fractinervis*<sup>966</sup> that I have believed it to be distinct. Its much larger size, very peculiarly shaped end of abdomen and lateral yellow spots on its second segment, dark colour of its femora and posterior tibiæ, etc., striped clypeus, yellow margins of the basal joints of antennæ, iridescent and hairy and dusky-coloured wings, 3 ocelli, etc., have caused me so to determine.

##### Genus *Lissonota*

##### *L. multicolor*,<sup>967</sup> sp. nov.

Ferruginous, spotted with yellow and black. Head: orbits of eyes, genæ, a narrow transverse line above labrum, and mentum light yellow; [160] a black spot on vertex, a black ring round occiput and neck; antennæ length of body, black; maxillæ and maxillary appendages fulvous. The prothorax yellow anterior edge; mesothorax, a broad black longitudinal line on mesonotum anterior end, with a yellow narrow and longer line on each side, a black lateral line from junction of anterior wing to the yellow line of the prothorax, with narrow black curved lines at lateral edges, small black spots above the junction of wings, and a small dark triangular spot at posterior edge of mesonotum, two small yellow spots beneath the junction of the wings and two larger yellow spots running diagonally towards intermediate coxæ; metathorax, a large triangular black spot on anterior edge of metanotum, with a small yellow transverse bar at its base (post-scutellum), and a large yellow lateral line diagonal towards posterior coxæ, scutellum mottled with yellow, slightly and sparsely acicular at apical end; sternum black; wings iridescent finely hairy and ciliated, hairs black springing from minute tubercles; stigma and nervures brownish; areolet small, subquadrate. Legs ferruginous; coxæ yellow above; tarsi joints barbed and slightly hairy, the last joints of tarsi and unguis dark brown; posterior pair, coxa black below with a ferruginous line; trochanters black; femora with a fuscotestaceous longitudinal line above: anterior pair, trochanters with a brown line; spurs long on the two posterior pairs. Abdomen ferruginous above, yellow below, a line of fuscous spots at lateral margins of the 3rd on to the 6th segments, a narrow darkish line on the lateral edges of the

966 WC: "Cat. of Hymenoptera," etc., by Professor Hutton, p. 128; where, however, it is named *Rh. antipodum*, Smith: this name, Professor Hutton informs me in a letter, must yield priority to the other.

967 Inc. sed.

first three segments, and a light ferruginous one below it on the first four segments; extremity yellow, with a minute black style on each side; ovipositor 4 lines long, light ferruginous at apex, sheaths darker, ciliate. Length of body, 4½ lines.

*Hab.* Forests at Norsewood, County of Waipawa; 1884: W.C.

**1884 A description of some newly discovered and rare indigenous Plants; being a further Contribution towards the making known the Botany of New Zealand.**

*Transactions of the New Zealand Institute* 17: 237-265.

[Read before the Wellington Philosophical Society, 13th February, 1885.]

**Class I. DICOTYLEDONS.**

**ORDER I.<sup>968</sup> RANUNCULACEÆ**

**Genus 3. Ranunculus, Linn.**

**1. *Ranunculus amphitricha*,<sup>969</sup> sp. nov.**

A LOW perennial, perfectly glabrous, slender, creeping herb, stolons very long, rooting at nodes, rootlets very long. Leaves rather distant, generally two from a node, erect, orbicular-cordate in outline, 7-9 lines diameter, ternisept, the two lateral lobes bisected nearly to base, each lateral lobe having 3-4 laciniations, middle lobe always cuneate and trifid, with a minute lacination or notch on each side, and mostly very regular; petioles slender, fistular, 2-2½ inches long, winged and clasping at base. Scapes or peduncles rather stout, 1-2 inches long, springing from node on the opposite side to the leaves, 1-3-flowered; flowers single, on long pedicels, 3 lines diameter; sepals 5, shorter than petals, orbicular, greatly concave, inflated, erect, obtuse, sub-papillose, one sepal always deeply emarginate or sub-bifid; petals 5-6, spreading, narrow, linear-oblong, obtuse, 2 lines long, yellow, shining, simple veined; vein forked at apex; unguiculate, unguis nearly as long as the lamina, the gland at base of lamina large, extending nearly across, erect, thickened, slightly toothed at top; stamens numerous, filaments long, anthers round bright yellow; styles erect when young, long recurved and subulate when mature; stigmas pubescent; achenes turgid and subpapillose when young, sub-globular and rugosely-papillate when mature, 12-15 collected in a globose head as large as a small pea; receptacle (ripe) largely echinately chaffy or squarrosely-hairy at base; hairs flat, translucent, bordered.

*Hab.* In muddy watercourses, edges of woods near Norsewood, County of Waipawa; 1880-84: W.C.

*Obs.* I have long known this plant, it has given me no small amount of yearly consideration and labour. I had long supposed it to be a variety of *R. rivularis* and of some allied Australian species; but on closer examination in its living state, and noting its differential (? specific) characters (*supra*), which are permanent, I cannot but conclude it to be distinct. [238]

**ORDER X. MALVACEÆ**

**Genus 2. Hoheria, A. Cunn.**

**1. *Hoheria sexstylosa*,<sup>970</sup> sp. nov.**

Tree erect, 12-14 feet, fastigiate, much branched; bark scaly with many small cracks and a whitish epidermis; branches long, slender, glabrous, roughish, bark dark reddish-brown; branchlets puberulous, with star-like pubescence. Leaves rather distant, glabrous, very variable in size and shape, mostly, however, lanceolate on the main and flowering branches, 2-2¾ inches long, acuminate, sometimes truncated at tips, cuneate, very finely reticulated and dotted, sub-membranaceous, light green above and lighter green below, sharply and deeply serrate, teeth acute; petioles ½ inch, flat above, and (with peduncles and calyces) thickly clothed with star-like pubescence. Flowers numerous, white, 1 inch and more in diameter, axillary and lateral, fascicled, mostly 3-4 together, sometimes 2, and also only 1; peduncles ¾ inch, jointed about the middle; calyx cup-shaped, 5-lobed, lobes large, deltoid-acuminate, acute with a knob at tips, 3-nerved, purplish-green; petals 5, connate at base, oblong, 7 lines long, 3 lines wide, oblique, obtuse, each petal deeply one-notched on the right side near tip, veined, glabrous, hairy within near base, spreading, incurved; filaments 5-adelphous, spreading, 2 lines long; anthers (filaments and styles) white, reniform, sub-versatile; styles 6-7, stout, flexuous, shaggy; stigmas capitate, large, flattish at top, papillose, slightly coloured, yellowish; ovary included sunk, 6-7 ridged, pubescent.

*Hab.* Skirts of woods and thickets, Norsewood, Matamau, and Tahoraiti, County of Waipawa; 1883-84: W.C. Flowering in March and April.

*Obs.* No two trees can be more unlike in their foliage than this is in its young and in its mature state; and not only so, but the same tree in the leaves on its older and flowering branches, and in those on its younger and lower branches; these latter, like those on the young trees, are under an inch long, rhomboid, trilobed, sub-orbicular, etc., but always deeply serrate and sub-fascicled, generally four together and all of various sizes. On the flowering branches also, the lowest leaves are invariably small. I have long known this plant in its young and leafing state, and had always supposed it to be a variety of *Plagianthus betulinus*, A. Cunn., which it much resembles. When in flower it has a striking and elegant appearance, and it remains a long time in full blossom; it will make a handsome garden tree or tall shrub. Not unfrequently 5-6, or more, standards rise from the one root, all about the same size, forming a little compact clump. The bark of the older trees is often completely covered with handsome crustaceous lichens. [239]

968 WC: The numbers in this paper attached to both orders and genera are those of the "Handbook of the N.Z. Flora."

969 *Stet.*

970 *Stet.*

## ORDER XXXIII. UMBELLIFERÆ

Genus 1. *Hydrocotyle*, Linn.1. *Hydrocotyle concinna*,<sup>971</sup> sp. nov.

Plant creeping, slender, pilose, soft, forming dense beds. Stems 2–3 feet (and more) long, rooting at nodes. Leaves membranaceous, green, distant, generally 1, sometimes 2, springing from a node, sub-orbicular, 8–10 lines diameter, roughish above with glandular pubescence of large flattish white and pink hairs, with a few larger and pink coloured ones scattered on the veins, deeply 5-lobed, lobes regular, broadest at apices, sub-tri-laciniate and sharply toothed, teeth long and curved; petioles 3 inches long, slender, finely striate; stipules large, broadly ovate, laciniate. Peduncles axillary and lateral (from nodes), erect, slender, much longer than the leaves, 4–6 inches long, pink-striped, thickly clothed with weak curved hairs; umbels 20–22-flowered; flowers radiate on long glabrous pedicels sub 2 lines long, each bearing a few scattered erect hairs and mostly in a single line; involucral leaves and bracteoles numerous, ovate-linear, laciniate and pointed; flowers greenish-white tinged with pink, red-striped on the outside; petals ovate, obtuse, spreading; calyx tube raised, tuberculate, dark-red; styles diverging, sub-clavate; stigmas capitate, red, minutely pencilled. Fruit orbicular, at first semi-transparent, echinate, light brown, carpels with one rib on each face.

*Hab.* In dense rather dry forests, on the ground. Seventy-mile Bush, County of Waipawa; 1878–84: W.C. Flowering in March.

*Obs.* This is a truly graceful species, neat, pretty, and uniform in all its parts. I have long known it, and though I had early considered it to be new, and often brought away specimens, I never found time to dissect, examine and compare it, until the autumn of 1884, when I did so leisurely in its native forests. Sometimes the young immature and unfolded leaves present a highly curious appearance; sessile at the nodes in small globular woolly masses, with their green cut and plaited margins fringing their tops; reminding one of young hazel-nuts. I believe it to be the work of some insect, having found the darkish-yellow larvæ snugly ensconced within.

2. *Hydrocotyle uniflora*,<sup>972</sup> sp. nov.

Stems creeping, rooting at nodes, whence also spring the leaves and peduncles fascicled. Leaves glabrous, entire, orbicular-truncate, or oblong-orbicular, always truncate at base, 5–7 lines long, rounded at apex, finely and regularly crenately toothed (3–4) towards base, and often with one small acute tooth at or below the two corners, 5-nerved, green, often purple above and covered with very minute white dots as if stippled margins purple, sometimes largely and loosely hairy below at base and on the nerves, veinlets [340] closely anastomosing; petioles 1½–3 inches long; stipules large, membranous, veined, entire. Peduncle 1–1½ inches long, slender (two are often united below near base, and thus become bi-peduncled), sometimes largely pilose. Involucral leaves two, sub-orbicular or orbicular-ovate, sessile and half-clasping, glabrous, veined, purple stained or margined, very membranous. Flowers single, sessile (rarely two together, and when so then one is shortly pedicelled), petals rather large, ovate, sub-acute, purple, reflexed. Fruit

large, sub-orbicular, compressed, 2 lines diameter, obsoletely 3–4-ribbed, tops purplish with a few loosely scattered hairs.

*Hab.* Wet sides of slopes, gullies near Norsewood, County of Waipawa; 1884: W.C. But not common.

*Obs.* A species having pretty close affinity with *H. asiatica*, Linn., but differing in several particulars.

3. *Hydrocotyle intermixta*,<sup>973</sup> sp. nov.

Plant very small; stems short, creeping and rooting interlaced underground. Leaves orbicular with a narrow deep sinus, 3–4 lines diameter, thickish, much veined, dark green, sparsely pilose on both sides with long succulent scattered hairs, 5–6-lobed, lobes short, broad, sub-tri-laciniate, cut, obtuse; petioles 4–5 lines long; stipules delicately membranous, reticulated, sharply laciniate. Flowers in small globose heads, 9–10 (sub 12), minute, red, sessile, petals incurved, obtuse; styles short; peduncles 7–8 lines long, erect, striate; involucral leaves small, obovate, obtuse. Fruit very small, shortly pedicelled, glabrous, turgid, broader above than below, shining, dark brown; carpels sharply keeled on back, 1 rib on each face, and a deep hollow between the two lateral ridges.

*Hab.* On dry open hills near Matamau, Seventy-mile Bush, County of Waipawa; forming thick little patches among short grasses and mosses, and other small plants, scarcely visible without close search; 1880–84: W.C.

## ORDER XXXIV. ARALIACEÆ

Genus 2. *Panax*, Linn.1. *Panax microphylla*,<sup>974</sup> Col.<sup>975</sup>

Flowers axillary, in 2–4 small umbellate panicles, conjoined at base and wearing a fascicled appearance, each sub-panicle containing 2–4 flowers—in all 3–14, small and inconspicuous, 1½ lines diameter, pedicelled, each pedicel surrounded by many minute stipellæ; petals broadly ovate, sub-acute, darkish-red on the outside greenish-red within, spreading, slightly recurved, deciduous; calycine teeth minute, acute, purple; filaments short, [241] alternate with petals; anthers sub-orbicular, bright yellow; disk green, convex; styles long, divergent, recurved, stout, obtuse, arising from an elevated base; stigmas slightly pencilled, purple.

*Obs.* Flowering in February. Each panicle almost invariably bears one large fruit before the other flowers are open. I have recently detected some larger shrubs, in those same localities, 5–7 feet high.

973 *Hydrocotyle novae-zeelandiae* DC.

974 Possibly *Raukaua anomala* (Hook.) A.D.Mitchell, Frodin et Heads.

975 WC: For description of this plant (without flowers), see "Trans. N.Z. Inst.", vol. xvi. p. 328.

971 Possibly *Hydrocotyle elongata* A.Cunn.

972 *Centella uniflora* (Col.) Nannf..

**ORDER XXXVI. LORANTHACEÆ****Genus 1. Loranthus, Linn.****1. *Loranthus polychroa*,<sup>976</sup> sp. nov.**

A glabrous spreading shrub of irregular horizontal growth; branches extending 2–3 feet. Leaves 2–2½ inches long, 7–10 lines broad, narrow-oblong and oblong-lanceolate, very obtuse and rounded at apex, sometimes (rarely) apiculate, tapering at base and narrowed into a rather long petiole 4–6 lines long, coriaceous, sub-glaucous-green, veins obscure when fresh, very apparent in dried leaves, 5–7 diverging from near base, margins thickened, sub-revolute, coloured red, and regularly and finely tuberculated. Racemes erect, about 1 inch long, 12–16-flowered; peduncle quadrangular, stout, tapering; pedicels decussate 2 lines long; flowers bright orange-red, 7–8 lines long; corolla slender, straight, swollen about the middle at base of filaments; petals linear-spathulate, sub-acute, longer than anthers, combined to below the middle, recurved and appressed from middle, darkish-coloured on outside at tips; anthers linear; style filiform longer than anthers; stigma dark red, globular, finely papillose; calyx rather deep, margin uniform, even; tube cylindrical, oblong, length of pedicel.

*Hab.* Parasitical and high up on trunks of *Fagus solandri*; woods near Norsewood, County of Waipawa, but scarce; March, 1884: W.C. Specimens, flowers, and leaves picked up.

*Obs.* A species near to *L. flavidus*, Hook. fil., yet distinct (*vide descript. supra*), as well as from the many other described species (nearly 200!) of this large genus.

**ORDER XXXVII. CAPRIFOLIACEÆ****Genus 1. Alseuosmia, A. Cunn.****1. *Alseuosmia pusilla*,<sup>977</sup> sp. nov.**

A small glabrous shrub, 5–8 (rarely 10) inches high, erect, simple, sometimes bearing 2–3 very short branches, and also other plants once forked from the base.

Leaves few, 8–12, distant, spreading, petiolate, 1–2½ inches long, oblong and obovate-lanceolate, obtuse with a small mucro, with 3–6 minute and fine distant teeth, sometimes quite entire, sub-coriaceous, green splashed and spotted with red, obsoletely veined, margins red; petioles 3–4 lines long, rather stout. Flowers few, scattered, single, lateral from near base or [242] near top, rarely axillary, drooping; peduncle stout, glabrous, spotted and striped with red (also the calyx and corolla without), bearing two small alternate bracts, and 3–4 red bracts together at the base with red spreading hairs within; calyx glabrous, 5-lobed, lobes deltoid acute; corolla 4–5 lines long, 5-lobed, lobes thickish, revolute, of a light straw or pale primrose colour, velvety, not veined, sides ruguloso-fimbriate to base, each lobe bearing 3–4 rather long cylindrical white obtuse fimbriæ at tip; anthers large, orbicular, 2-lobed, lobes turgid, shorter than corolla-tube, and longer than the style; stigma large, globose. Berry large, 8–9 lines long, ellipsoid, thickest at apex, succulent, smooth, shining, bright red, containing 9 (or more) dark brown seeds, 2 lines long, oblong, slightly curved and obtusely angled, finely striate, shining.

976 *Alepis flava* (Hook.f.) Tiegh.

977 *Stet.*

*Hab.* In shady forests near Norsewood, County of Waipawa; 1884: W.C.

*Obs. I.* The unexpected discovery of this little shrub pleased me much: (1) from the genus being very scarce in this part of the island, though common in the woods at the north (Bay of Islands, etc.); I had only once before (in 1848) fallen in with a species<sup>978</sup> so far south, and then only in one spot, in the dense forest between the rivers Manawatu and Ruamahanga; (2) from the distinctness of this species: (3) from the small size of the shrub—a little erect hard-wooded tree in miniature; and (4) from its very large and bright red fruit (which indeed was the cause of my detecting it, hidden among the dense undergrowth of ferns and small herbaceous plants); it bears the largest berry of the known species of the genus.

*Obs. II.* I brought away living four shrubs, each 5–6 inches high; and planted them here at Napier in a large flowerpot. These are all healthy, and are now flowering (September), although they have not yet fully evolved a leaf; some of the flowers are about 1–2 inches from the base, and all from old wood. From its delicious odour (common to the genus) this species being so small will make a suitable pot plant.

**ORDER XXXIX. COMPOSITÆ****Genus 1. Olearia, Mœnch.****1. *Olearia multibracteolata*,<sup>979</sup> sp. nov.**

A shrub about 6–7 feet high of dense foliage and thick compact growth; "bark on trunk rough grey and somewhat scaly, wood hard, and leaves in age acquiring a brown colour." Branchlets long slender, dark brown, sulcated, villous with brown and grey pubescence. Leaves 1–2½ inches long, ½–¾ inch wide (decreasing in size towards ends of branches), linear-oblong, obtuse with a tooth, alternate, distant, coriaceous, incurved, deeply [243] and sharply serrate, or bi-serrate—the serratures having small teeth in the sinuses, margined, bases dimidiate and sub-truncate, glabrous and shining on upper surface, clothed below with fine appressed golden silky hairs, midrib stout, keeled below, costal veins forming obtuse angles with midrib, greatly and finely reticulated on the upper surface, almost tessellated with minute squarish dots that are sometimes crescent-shaped; petioles ½ inch long, stout, deeply channelled, dark brown, largely decurrent slightly winged or ridged extending to next leaf below. Flowers whitish, in small rounded terminal corymbose-panicles, arising from axils of leaves; panicles long slender, 1–2 inches long, leafy; sub-panicles with 2–4 flowers; flowers rather distant, but together form a close compact corymbose head; peduncles slender, each with a small leaf at its base; pedicels about 3 lines long, slender; peduncles, pedicels, and involucres thickly covered with viscid glandular pubescence, odoriferous. Head of flowers small, about 2 lines long, 2–3 lines diameter, sub-cylindrical or infundibuliform, few-flowered, soon expanding; involucre with 1–2, or more, leafy bracteoles at its base; involucral scales in two rows, brown with a dark centre, outer shorter and ovate-acuminate, inner long linear obtuse, fimbriate at

978 WC: This, also, I had only found in fruit, in the autumn; Sir J.D. Hooker, in the "Handbook N.Z. Flora," has placed it under *A. quercifolia*.

979 *Olearia ilicifolia* Hook.f.

tips with brown curly tomentum. Florets of the ray white, 7–9, largely revolute, nearly twice as long as the involucr,—of the disk 5–6, reddish, pubescent without; pappus short, rather shorter than florets, not thickened at tips, of a light-brownish colour (*ochroleucus*); achenes small, sub-linear-ovoid, somewhat flattened, ribbed and very hairy; receptacle very small, somewhat irregular and ridgy.

*Hab.* Forests about Woodville, River Manawatu, North Island; 1882–84. Flowering February and March: *Mr. S. Hutching.*

*Obs.* A species closely allied to *O. dentata* and *ilicifolia*, with which I was at first inclined to place it; but a closer examination of better and flowering specimens has yielded important characters possessed by neither of those species. It has a very strong and not unpleasant smell, particularly the clammy glandular pubescence of its heads of flowers. Mr. Hutching informed me that, during several years residence there, he had only noticed this one plant, which he had early removed into his garden. I think it will make a neat garden shrub.

## 2. *Olearia populifolia*,<sup>980</sup> sp. nov.

Branchlets slender, bark brown, striate, thickly hairy with brown and grey hairs. Leaves alternate, rather distant, 2–3 inches long, 1½–2¼ inches broad, membranaceous, broadly ovate, acute, acuminate, sometimes sub-orbicular and dimidiate, sub-truncate at base, sinuate, toothed, teeth few distant and (apex) knobbed, glabrous above, clothed below with densely appressed short pale greenish-white wool of a satiny appearance, midrib [244] prominent below and densely covered with brown hairs; petioles 5–9 lines long, rather slender, brown, hairy, deeply channelled above, dilated at base but not decurrent. Flowers sub-terminal in long slender sub-corymbose and axillary panicles, 4 inches long, panicles and sub-panicles each with a single small obtuse densely-haired brown bracteole at base; heads few, broad, spreading, 4–5 lines diameter, rather distant, on slender pedicels 5–6 lines long; involucral scales in three rows, brown with a dark mid-line, outer short sub-ovate, acute, densely hairy on the back, inner longest, linear, obtuse, glabrous on back, densely fimbriate at edges and tips; florets few, tubes glandular-pubescent, thickened downwards; florets of ray broadly lanceolate, tips obtuse and very slightly emarginate; stigmas much exserted, long, narrow, acute, spreading; pappus short, acute, dirty-white, tips recurved reddish; receptacle small, convex, ridgy; achene very small, less than 1 line, nearly linear, broadest at top, sub-cylindrical and very slightly angled, very hairy.

*Hab.* Woods, east side of the Ruahine Mountain range, County of Waipawa, North Island; January 1884: *Messrs. H. Hill and A. Hamilton.*

## Genus 14. *Gnaphalium*, Linn.

### 1. *Gnaphalium adhaerens*,<sup>981</sup> sp. nov.

Plant a diffuse bushy perennial herb; main stems woody, as thick as a goose-quill, climbing, adhering closely by long lateral rootlets to perpendicular clayey cliffs. Branchlets sub-secund, patent, drooping, 9–14 inches long, stoutish, covered with floccose silky hairs; leaves alternate, scattered, distant, 2 inches apart on stems, 1½–2¼ inches long, 6–8 lines broad, obovate, acute, apiculate, sessile, half-clasping,

margins entire, glabrous above, woolly below, with closely appressed floccose white hairs, membranaceous, flaccid, strongly tri-nerved, light green. Flowers terminal in loose bracteate corymbose panicles, 2–3 inches long, containing 12–13 heads, mostly 3 heads on each sub-panicle or lower peduncle; peduncles and pedicels long, bracteolate, densely woolly like branchlets; bracts and bracteoles foliaceous, margins waved; heads 4 lines diameter; outer involucral scales densely floccosely silky; inner involucral scales 2 lines long, linear, clawed, spreading, lamina white as ligulate florets but narrower, claw green shining thickened at base; ligulate florets white, spreading acute and obtuse, laciniate-toothed at tips; pappus few, slender, scabrid, spreading, not thickened at tips; achenes very small, linear, somewhat subquadangular, obtuse with a central depression or corona at base, glabrous: receptacle small 1 line diameter, flat, subdepressed, alveolar, full of circular holes with raised margins. [245]

*Hab.* Damp cliffy clayey sides of the River Mangatawhainui (a feeder of the River Manawatu) near Norsewood, County of Waipawa; 1883: *W.C.* Flowering in December, with the dead leaves and flowering panicles of the former year still strongly adhering.

*Obs.* A species allied to *G. lyallii*, *trinerve*, and *keriense*. From its diffuse flourishing growth, peculiar habit, and numerous heads of pure white flowers, this plant looks exceedingly well in its native home. It clings strongly to the cliffs, like ivy, only its rootlets are very much longer, extending some inches each way.

### 2. *Gnaphalium sub-rigidum*,<sup>982</sup> sp. nov.

Plant bushy, loosely spreading; stems many from one root, woody, ascending, very slender, 12–20 inches long, 1–1½ lines diameter, of uniform thickness, brittle, branched and naked below, simple and leafy above, scarred throughout; bark dark brown. Leaves rather closely-set, scattered or somewhat whorled, patent, sub-coriaceous, linear, 8–12 lines long, 1–1¼ lines broad, sub-acute and apiculate, flat, sessile and half-clasping, glabrous, shining and reddish above, white and cottony below; margins entire, recurved, very thick and shining; midrib stout and prominent below; veinlets anastomosing. Heads of flowers white, numerous, 10–20 at tips of branches, in lax sub-fascicled corymbs, on slender nodding white and cottony peduncles and pedicels of various lengths 3–9 lines long, some 1-, others 2- and 3-flowered, all with long foliaceous narrow bracts, often each pedicel is bi-bracteolate; heads ½-inch diameter; involucral scales white and spreading, oblong, obtuse, rarely notched at tips, margins entire, claw short, greenish-brown, glabrous; florets very numerous, at first yellow, afterwards with a dull reddish tinge; receptacle flat with a raised flat centre, densely and minutely rugged; pappus few, very slender, weak, slightly scabrid and jointed. Achene short, linear, sub-acute at tip, glabrous.

*Hab.* Dry hilly country west side of Ruataniwha Plains, County of Waipawa; 1884: *Mr. H. Hill.* Flowering in September.

*Obs.* A species pretty near to *G. keriense*, A. Cunn., var. *linifolia*, J.D. Hooker.

980 *Olearia arborescens* (G.Forst.) Cockayne et Laing.

981 *Anaphaliodes trinervis* (G.Forst.) Anderb.

982 Stet.

**ORDER LIII. SCROPHULARIÆ****Genus 4. Gratiola, Linn.****1. *Gratiola glandulifera*,<sup>983</sup> sp. nov.**

Plant creeping at root, glabrous, stems erect and ascending, 6–12 inches high, simple and branched, stout, semi-succulent, sub-quadrangular, obtusely-angled, deeply channelled on two sides, purple-red, with a few weak and short scattered hairs. Leaves ovate, 4–6 lines long, 2–3 lines wide, obtuse, sessile, half-clasping, thickish, 3-nerved, serrate, sub 6 (generally 4) teeth, teeth and tip dark purple. Flowers few, axillary, solitary, [246] peduncled, peduncles about 1 line long: calyx 5-leaved, leaves linear-acuminate, 1-nerved, green, longer than capsule, obtuse, somewhat knobbed and purple-tipped, each leaflet having a row of sub-succulent white hairs down the nerve on the outside: corolla  $\frac{1}{2}$  inch long, pubescent, limb white; upper lip 2-lobed, sometimes purple-margined; lower lip 3-lobed, lobes all very obtuse; tube yellowish, purple-striped, throat above thickly clothed with golden glandular hairs, and on each side a single row of similar hairs. Capsule broadly-ovoid.

*Hab.* In boggy spots, edges of water-courses near Norsewood, County of Waipawa; 1884; but very local; flowering in March: W.C.

*Obs.* A species having pretty close natural affinity with *G. sexdentata*, A. Cunn. (? *G. peruviana*, Benth.), but apparently differing in several characters, the chief one being the thick glandular pubescence lining the corolla.

**Genus 9. Ourisia, Comm.****1. *Ourisia robusta*,<sup>984</sup> sp. nov.**

Erect, glabrous, scape, sparingly pilose.

Leaves radical broadly-ovate, obtuse, deeply crenate or sub-crenate-serrate, teeth apical, each with a gland-like circular brownish dot on upper surface within margin, triple-ribbed, veins very stout and prominent below, lamina 6 inches long, thickish, slightly decurrent; petioles same length, thick, sub-succulent, deeply canaliculate, edges purple and slightly hairy. Scape 1½–2 feet high, very stout, 5 lines diameter, septangular and sulcated, purple-striped, bearing long white jointed and weak hairs scattered on its angles. Bracts, or floral leaves, on the scape all whorled, lowermost 5–8 (generally 8), broadly lanceolate, 2½ inches long, serrate, margins purple, 5-nerved to base of petiole; petioles long broad and flat, edges hairy; upper whorls of bracts very numerous (00), serrate, decreasing gradually in size to the apex. Flowers umbellled in distant whorls, generally nine; pedicels 1½ inches long, rather slender, sub-angular, purple-striped, covered with thick glandular pubescence; calyx 5-partite, glabrous, purple-striped, lobes linear-subulate, 1-nerved, 5 lines long, obtuse and thickened at tips; tips recurved, margins purple; corolla large 11 lines diameter, white within, purple and purple-striped on the outside; throat yellow-green, densely clothed with numerous jointed and sub-clavate succulent hairs of the same colour; tube short 3 lines long; lamina spreading 5 lines long, lobes large, retuse, veined; veins obtusely angled and rounded. Capsules orbicular-oblong, broadest at base, turgid,

glabrous, purple-spotted on top, much smaller than calyx lobes.

*Hab.* In gullies on the high lands west of Napier, between Napier and Taupo; 1883: Mr. H. Hill. [247]

*Obs. I.* This species has close affinity with *O. macrophylla*, Hook., but differs from it in several particulars; the sepals are narrower longer glabrous and coloured, and only 1-nerved; the corolla is coloured within and there clothed with densely glandular pubescence, and the tube is much shorter, and in the venation of the limb, which is also larger, the angles are rounded at apices, and not acute as in that species, and the pedicels are densely glandular-hairy: the leaves also are different, both in their shape and in their curious little gland-like openings or depressions on their margins; and the scape is very much stouter and 7-angled, with its lower floral leaves much more numerous, larger and petiolate.

*Obs. II.* From Sir J.D. Hooker's "note"<sup>985</sup> on an imperfect specimen of *Ourisia* of possibly an additional species allied to *O. macrophylla* which I had early "gathered near Taupo;" I am of opinion that this may very likely be identical with that plant.

**ORDER LXX. CUPULIFERÆ****Genus 1. Fagus, Linn.****1. *Fagus apiculata*,<sup>986</sup> Col.<sup>987</sup> (Fruit.)**

Fruiting involucre or cupule, green, ovate, obtuse, 4 lines long, 3- (sometimes 4-) sided, with four imbricated tomentose ovate scales on each side, edges scarious and brown, shortly pedicelled, pedicels pilose; nuts 2–3, broadly ovate, sparsely pilose, outer one (or two) sharply ridged down the centre on one side, inner (or middle) one flat, thin, sub-erose at edges above, tips deeply bifid; styles persistent.

**Class II. MONOCOTYLEDONS.****ORDER I. ORCHIDÆ****Genus 10. Microtis, Banks and Solander****1. *Microtis longifolia*,<sup>988</sup> sp. nov.**

Plant variable in size, and in the number of its flowers; tall, erect, 1 foot 3 inches to 2 feet 3 inches high; leaf solitary terete tubular, with 3 longitudinal furrows from base to tip, 2–3 inches longer than scape, and on open oppressed bract at base 1–2 inches long. Scape stout, 2–3 lines diameter, cylindrical below sub-angular above; raceme 3–6 inches long, many flowered (25–40), flowers pedicelled, small, distant, 2–6 lines apart; bracts 2 lines long, broadly ovate-acuminate, transversely rugulose and decurrent; upper sepal boat-shaped, sub-cucullate, acute; lower pair largely divergent sub-revolute, obtuse; petals free, recurved, obtuse; lip oblong, laciniate or sub-lobed, much crisped at margins; tip broad and bifid; the two lumps at base very large, dark

985 WC: "Flora Novæ-Zelandiæ," vol. i., p. 198.

986 *Nothofagus apiculata* (Col.) Ckn.

987 WC: For description of this plant (without fruit) see "Trans. N.Z. Inst.," vol. xvi., p. 335.

988 *Microtis unifolia* (G.Forst.) Rchb.f.

983 *Gratiola sexdentata* A.Cunn.

984 Possibly *Ourisia macrophylla* Hook. subsp. *robusta* (Colenso) Arroyo.

green, smooth and shining; the lump near tip tuberculate or crimped, commonly in two ridges; ovary stout, 3 lines long, finely papillose, flat beneath, very turgid and gibbous above. [248]

*Hab.* Skirts of woods near Norsewood, County of Waipawa; flowering in February and March; 1883–84: W.C.

*Obs.* A species allied to the common *M. porrifolia*, but differing in several characters (*vide descript. supra*); and also from its flowering in the autumn. It is nearly allied to some of the Australian species.

#### Genus 11. *Caladenia*, Br.

##### 1. *Caladenia variegata*,<sup>989</sup> sp. nov.

Plant erect, 6–12 inches high, glandular-pubescent; pubescence pink-tipped; scape red, sub-rigid not succulent, slender above leaf, stoutish below, arising from a thickened node, having three clasping membranous acute sheaths, one at base enclosing scape and leaf, one at middle 6–8 inches long, and one close under ovary; root rather long, stoutish, ending in a long white tuber as big as a pea. Leaf single,  $\frac{1}{2}$ –1 inch from base, 6–8 inches long, 1–2 lines wide, linear-acuminate, thickish, glabrous, channelled, green on upper and purplish-red on under surface, slightly ciliate at edges, and very sparsely pubescent underneath on the lower portion with long weak glandular hairs. Flower single on top of scape, (one specimen only, out of nearly forty obtained, bore two flowers, both springing from within the upper sheath and pedicelled,) perianth spreading, more than  $\frac{1}{2}$  inch diameter; dorsal sepal green, arched, sub-oblong-ovate, obtuse and apiculate at apex, produced, glabrous above; lateral sepals pinkish, oblong, apiculate, larger than petals, 3-nerved; petals pink, oblong-lanceolate, apiculate, falcate; lip sessile; disk with two longitudinal rows of bright-yellow stipitate glands having large globular heads, extending from inner part of middle lobe down into the throat, with smaller glands scattered on each side, and one or two at the margin of extreme base of the middle lobe; the two lateral lobes are transversely banded with light-purple, margins white, rounded at tips; middle lobe deltoid, deeply crenulate, recurved, bright yellow; column winged throughout, green, pubescent at top, transversely banded below with light purple, similar to lateral lobes; anther acute, tip subulate, margin finely fimbriate. Ovary 8–9 lines long, linear-ovate, sulcate, densely glandular-pubescent.

*Hab.* Plentifully, but only in one spot, among mosses on fallen and rotten *Fagus* trees, and on the ground alongside, in rotten vegetable soil, shady woods, top of a high hill near Norsewood, County of Waipawa; December, 1883: W.C.

*Obs.* A species closely allied to the two known New Zealand species, *C. minor* and *lyallii*; and also to several Tasmanian and Australian species—*C. carneae*, *alata*, and *angustata*; but while serving naturally to unite them differing from them in all important characters. *C. minor*, [249] which is so common at the north (Bay of Islands), on clayey open hills among fern (*Pteris esculenta*) and *Leptospermum* scrub, I have never met with in these southern parts.

#### Genus 15. *Thelymitra*, Forst.

##### 1. *Thelymitra nemoralis*,<sup>990</sup> sp. nov.

Plant stout; tubers large, oblong, narrow. Leaf (occasionally two) variable, 6–17 inches long, 6–9 lines wide, linear-acuminate, acute, broadest at base, green, glabrous, thick, strongly 3- (obsoletely 5-) nerved, keeled. Scape stoutish, 8–16 inches long, bibracteate, bracts equidistant, sub-foliaceous, clasping, acute; raceme 2–8- (usually 7-) flowered; flowers distant, bracteolate on rather long pedicels; bracteoles obovate-oblong, acuminate, acute, obsoletely 5-nerved; perianth spreading  $\frac{3}{4}$  inch diameter; sepals pale green with broad white margins, narrower than petals; dorsal sepal much larger than laterals, obovate-oblong, obtuse with a mucro; lateral sepals ovate-lanceolate, acuminate; petals white, sometimes pinkish, broadly elliptic, acute with a mucro; lip similar to petals but narrower and not so highly coloured; column with stout deeply emarginate tip, pinkish below, umber-brown above, edged with bright yellow, margins incurved; appendages produced, rather shorter than column and inclined at top towards it, densely globosely-plumose at tips, white; the base of wings in front of column sub-two-lobed and two-toothed; stigmatic gland bilobed at base, trilobed at apex including rostellum.

*Hab.* Dry *Fagus* forests. Seventy-mile Bush, County of Waipawa; 1881–83: W.C. Flowering in December.

##### 2. *Thelymitra purpureo-fusca*,<sup>991</sup> sp. nov.

The whole plant exceedingly slender, of a dusky purple-brown or purplish-red colour; tubers narrow, oblong. Leaf narrow,  $1\frac{1}{2}$ –3 lines wide, 7–10 inches long, thickish, channelled, glabrous. Scape erect, very slender, almost filiform, bibracteate, 8–10 inches long; raceme 3–5-flowered (occasionally only one); flowers rather distant, bracteolate on long slender pedicels; perianth  $\frac{1}{2}$  inch diameter; sepals dark purple-brown edged with a bright green line, a yellow central stripe and broad white exterior margins, sub-ovate-acuminate, much concave, dorsal one largest, the two laterals with a long mucro; petals light pink, sometimes white, elliptic-oblong, obtuse, broader than sepals; lip the smallest; column pink dashed with blue, apex stout, much emarginate, incurved, dark and edged with bright yellow (as in *T. nemoralis*), but the plumose appendages are more produced and rise above the column; anterior base slightly erose; stigmatic gland similar to that of *T. nemoralis*; anther very acuminate, tip subulate.

*Hab.* In *Fagus* woods on dry hills with the preceding species, but usually higher up; 1881–83: W.C. [250]

*Obs.* I have both sought and watched this plant very closely; from the fact of its widely different general appearance at all stages from *T. nemoralis*, and yet, on examination and dissection, I find it possessing such scanty differential characters; the principal ones consisting in its plumose staminodia rising *above* the tip of the column—its narrower and variegated sepals—its slenderer proportions, dusky aspect and fewer flowers. In all these however it is very uniform; as I have seen and examined (through patiently waiting for their development) some scores of flowers and plants. It has also a peculiar habit of growth, being often found in little clumps (like crocuses and jonquils), from

990 Included in *Thelymitra longifolia* Forst.

991 Stet.

which arise 6–12 scapes. It wears a very striking and elegant appearance, when its dark perianths with their segments edged with white are about expanding, from their contrasts in colour. Notwithstanding the column-appendages being produced beyond its tip, while in *T. nemoralis* they are below it, this species is naturally very closely allied to that one.

#### ORDER. VII. LILIACEÆ

##### Genus 2. Callixene, Comm.

###### 1. *Callixene melantha*,<sup>992</sup> sp. nov.

Perianth darkish-green, 1½ inches diameter; segments obtuse, 3 outer ovate-acuminate, thickish, obsoletely veined longitudinally; 3 inner narrower and thinner, broadly-linear, incurved, venation netted; filaments brown, stout, broad at base, longer than anthers; anthers bright yellow, sub-linear-ovate, 3 lines long, tips emarginate, base sagittate, extrorse; style brown, sub-angular, tapering; stigma ochraceous, small, papillose.

*Hab.* East sides of Ruahine mountain range, County of Waipawa; 1883: Mr. Hamilton.

*Obs.* I. The anthers and stigma of this species more closely resemble those of *C. polyphylla* (a South Chilian plant) than they do those of *C. parviflora*, the only known New Zealand species.

*Obs.* II. I have received but a single unexpanded flower! all that was by chance obtained; fortunately it was mature, uninjured, and fresh. It appears that Mr. Hamilton, on his return from the forests, was clearing out some mosses, leaves, etc., from the outer pockets of his coat, and found among them this one flower-bud (*alabastrum*), and kindly gave it to me. For some time it puzzled me, its dark green colour, so unlike that of a flower, and its being closely shut up, helped to disguise it; it more resembled a caper bud than anything else; but on soaking, dissection, etc., I found out what it was, and believe it will prove to be a new species of *Callixene*. It is allied to *C. parviflora*, which bears a much smaller and white flower and has a very different stigma; this latter, however, grows on the same range at a much higher altitude. [251]

##### Genus 5. Astelia, Banks and Solander

###### 1. *Astelia microspermum*,<sup>993</sup> sp. nov.

Leaves coriaceous, sub-linear-ovate, lanceolate, very acuminate, 2 feet 3 inches to 2 feet 6 inches long, 1½–1¾ inches wide at the broadest part above, rather suddenly and much dilated at base and there 4 inches wide and greatly overlapping and triquetrous, light yellowish-green, glabrous and shining particularly at bases but the innermost leaves have a narrow band of white hairs at their bases on the outsides, the extreme base somewhat fleshy and succulent, gummy, with a white transverse band 1 inch wide, above that it is black for 2 inches or more; under a strong lens the surface below is closely cottony appressed in minute squares, sub-incurred, deeply channelled, slightly keeled below in the centre of the leaf but not so at base, 2 prominent and stout nerves equidistant from midrib, with many finer nerves; offshoots around the base of scape

sharply triangular. *Female* scape terminal very stout, sub-triquetrous, 9 inches long, densely clothed throughout with white silky hairs that are very long at base; panicle nodding, 6–7 inches long, composed of seven slender sub-sessile racemes 4–6 inches long and about 1 inch apart, each with a very long sessile foliaceous bract sub-ovate-acuminate, half-clasping, not cordate, 16–18 inches long, 1½–1¾ inches wide at base; flowers very small, about 1 line long, excessively numerous, compact, light yellow; pedicels sub-fascicled, 2 lines long, slender, woolly; bracteoles linear, 2 lines long, white with a brown central stripe; perianths woolly on the outside, closely embracing ovary, and nerved below to anthers; segments sub-linear-ovate, obtuse, reflexed, nerveless; ovary ovate, half or more exserted; stigma sessile, spreading, trilobed, papillose; anthers linear, very slender. Fruit small, 1½ lines diameter, sub-globular, somewhat obtusely triquetrous, with a long produced sub-angular beak, greenish; seeds very small, 14–18 in a berry, black, shining, sub-lanceolate, convex above flattish below, produced at one end. *Male* (whole scape not seen), sub-peduncle thickish, obtuse, cylindrical, single raceme 3 inches long, 10 lines wide; flowers light brown, densely compact, sub-fasciculate, pedicelled; pedicels 2–3 lines long, stoutish, shaggy, with an excessively narrow linear bracteole near the base, longer than pedicel and nerved; perianth large spreading, about 1 inch diameter; segments cut to base, 4 lines long, shorter than anthers, deflexed, sub-linear-ovate, obtuse; outer 3, broader, 3-nerved, tips woolly on the outside; inner 3, 1-nerved, tips thickened; filaments 3 lines long, stout, cylindrical; anthers 2 lines long, linear, obtuse, largely hastate; ovary small, sub-triquetrous, spotted white; stigma sessile, tri-orbicular, finely papillose.

*Hab.* Epiphytical on high trees in forests, Seventy-mile Bush, between Norsewood and Danneverke, County of Waipawa; 1884: W.C. Flowering in January. [252]

*Obs.* A very peculiar, fine and distinct species; of which, from its growing so very high up in the trees, it is difficult to obtain good specimens.

###### 2. *Astelia albicans*,<sup>994</sup> sp. nov.

Leaves linear-acuminate, 1 foot 3 inches to 2 feet 6 inches long, ¾ inch wide at broadest part, tips much drawn out, obtuse and hairy, drooping, stout, glabrous and green above, closely appressed with short white hairs below mixed with minute dark green dots, sub-8-nerved, edges ciliate, slightly keeled, of a blackish colour for about three inches from base; base thick, dilated, 1½ inches wide, satiny within and densely shaggy on outside with long white hairs. *Male*, scape flexuous, erect or slightly cernuous, 4 inches long, very stout, obtusely triquetrous, densely silky; panicle short, stout, 6–8 inches long, composed of 6 stout short obtuse sub-sessile spikes, each 2 inches long and 1 inch wide, with a broadly ovate and very acuminate bract at the base of each spike, the lowermost bract 1 foot long; perianths sessile, densely crowded, white, ¾ inch long, with a single very narrow linear-acuminate light brown bracteole at base, shorter than segments of perianth; segments cut to base, glabrous, shaggy at bases, distant, 6–7 lines long, longer than anthers, narrow-linear-acuminate, very membranous, transparent, obsoletely 3-nerved, at first erect, afterwards wholly reflexed; filaments 3 lines long, white, very stout, broad and red at base, tapering, arising from bases of segments; anthers 2–2½ lines long, linear-acuminate,

992 *Luzuriaga parviflora* (Hook.f.) Kunth.

993 *Collospermum microspermum* (Col.) Skottsb.

994 *Collospermum microspermum* (Col.) Skottsb.

hastate, light brown; stigma plumose, sessile on a beak-like projection of disk. Female scape much smaller and more slender than male, slightly drooping; panicle composed of 4 (sometimes 5) rather distant racemes, each 2–2½ inches long, ½ inch wide; bracts same as in male but narrower; perianths free, shortly pedicelled, closely enclosing ovary below; segments cut half-way to base, very small, reflexed, with here and there minute rudimentary anthers; stigma sessile, somewhat trifid, papillose; ovary ovate-acuminate, cylindrical, glabrous, greenish-yellow.

*Hab.* Epiphytical on trees, east slopes of Ruahine mountain range, County of Waipawa; January, 1884: *Mr. A. Hamilton.*

### 3. *Astelia fragrans*,<sup>995</sup> Col.<sup>996</sup> (Fruit).

Fruit large globular, orange-coloured with puckered sub-angled red tips (stigmatic points); calyx persistent, 6-lobed, large, free, thickened, saucer-shaped, [253] spreading, orange-coloured with dark margins; lobes very obtuse; 8 seeds in each berry; seeds black, smooth, shining, gibbous, curved, 1–1½ lines long, sharply and obsoletely and variously angled.

*Obs.* The coloured thick and spreading calyx of this species when the fruit is ripe has a very peculiar and novel appearance.

## ORDER IX. JUNCEÆ

### Genus 1. *Juncus*, Linn.

#### 1. *Juncus macrostigma*,<sup>997</sup> sp. nov.

Plant large, loosely cæspitose in rather small isolated clumps, erect, dull green, sub-glaucous, glabrous but not shining. Culms 3–5 feet high, cylindrical, stout, ¼-inch diameter, tips acuminate and sharp, very finely striate, pith continuous, each culm with several (4–5) membranaceous sheaths at the base, outer ones very small, innermost 8–10 inches long, appressed, very obtuse with a long hair-like mucro 2–3 lines long, sulcate, pale green above dark brown below; flowers lateral, numerous, pale, pedicelled and sessile, in close cymose heads and in sub-panicles on long sub-compressed and rigid peduncles, generally 3–4 main ones, one being much longer (2–3 inches) than the rest; bracts long, awned; bracteoles numerous, short, broadly obovate, sub-acute, sometimes acuminate, clasping, rugulose, pale; perianth lobes acute sub-acuminate, pale green with white membranous margins; stamens 6, anthers bright yellow; style short, distinct; stigmas 3, very long, stout, erect, twisted, spiral, plumose, light reddish-pink; capsule ovoid, pale, reddish at tips, shining, longer than perianth; seeds numerous, small, brown, turgid, oblong, irregular in shape, somewhat sub-lunate and gibbous, very finely striate and reticulated, testa produced at each end.

*Hab.* Sides of water-courses, Seventy-mile Bush, between Norsewood and Matamau, County of Waipawa; 1882: *W.C.* With other *Junci*, but not like them plentiful; flowering January and February.

*Obs.* In the flowering season its head of flowers presents a striking and pretty appearance, from their large and coloured pink stigmas and bright yellow anthers; very

different from all our other *Junci*. Its affinity is, I think, with *J. vaginatus*, Br., and *J. pseudo-cyperus*, Linn.

## ORDER XI. CYPERACEÆ

### Genus 13. *Uncinia*, Persoon

#### 1. *Uncinia nigra*,<sup>998</sup> sp. nov.

Plant large, densely cæspitose. Culms stout, erect, 3 feet long, triquetrous, smooth. Leaves of equal length, ¼ inch wide, squarrose, very acuminate with hair-like tips, many nerved, margins finely and closely serrulate, glabrous below, scaberulous on upper surface, keeled, generally 4 leaves on a culm, sheathing below 6–12 inches from base; colour light [254] green, brown towards base; spurious ligula bi-lunate or kidney-form. Spikelet 6 inches long, slender, upper portion 1½–1¾ inches male, bracts (often 3) leaf-like, long, outer 12–16 inches long 1 line wide, very filiform at tips, scabrid, crumpled towards top, fugacious; utricles decussate, distant on rhachis about 1 line apart, squarrose, black, 2½ lines long, spindle-shaped, truncate and striped at base, acuminate, shining; bristle 3½ lines long from tip of utricle, greenish; hook long, light brown, thickened and black at curve; glume narrow, narrower than utricle, linear-ovate-acuminate, 5½ lines long, obtuse, glabrous, shining, light brown with a thick central nerve, tri-nerved at base, fugacious; stigmas long, slender.

*Hab.* Skirts of low woods near Norsewood, County of Waipawa; March, 1884: *W.C.*

*Obs.* This plant wears a striking appearance when its fruit is ripe, widely different to that of its ripening state; for the light-coloured and long glumes having fallen away, the black and distant utricles stand out patent on the rhachis, which, in clear tranquil and undisturbed situations, arrests the eye immediately from their extreme novelty. The fruits, however, fall off at a very slight touch, often clinging disagreeably by their hooks to clothing, hair, etc.

### Genus 14. *Carex*, Linn.

#### 1. *Carex quadrangulata*,<sup>999</sup> sp. nov.

Plant large, tufted, diffuse, dark green. Culms rather slender, 3 feet 6 inches long, drooping, smooth, glossy and finely striate, trigonous but 4-angled owing to the lower angle being double or channelled throughout, and scaberulous on both edges. Leaves shorter than culms, 2 feet 6 inches long, ¼ inch wide, channelled, linear, acuminate, margins and upper surface finely scabrid, keeled, keel scaberulous. Spikelets few, under 1 inch long, the lower 2 single, distantly spiky along the culm, the upper and terminal one a short compound panicle, bearing the male spike at top, slender, 1 inch long; peduncles 3, 1½–2 inches long, erect and nodding, filiform, compressed, scabrid, with 2 small adpressed sheathing brown bracteoles; the 2 lower bracts very long, 12–15 inches, foliaceous, sheathing, with a small transverse scarious bracteole below aperture of sheath on the outside. Glumes as long as the utricles, broadly ovate, bicuspidate, awned with a stout central nerve, membranous at margins, light coloured minutely striped with red. Utricles short, about 1 line long, broadly ovate, turgid above, flattish beneath, bicuspid, scabrous on both margins near tip, glabrous, shining, dark brown. Stigmas 3.

995 *Stet.*

996 WC: See "Trans. N.Z. Inst.", vol. xv., p. 333, for a full description of this species, without its fruit.

997 *Juncus pallidus* R.Br.

998 *Uncinia ferruginea* Boott.

999 *Carex dissita* Sol. ex Boott.

*Hab.* Sides of water pools, open parts of the forest, Norsewood, County of Waipawa; 1884: W.C. [255]

### Class III. CRYPTOGAMIA.

#### ORDER I. FILICES.

##### Genus 5. *Hymenophyllum*, Smith

###### 1. *Hymenophyllum melanocheilos*,<sup>1000</sup> sp. nov.

Plant very small, creeping, glabrous, very thin, light green, cellules large; rhizome filiform. Fronds rather distant on rhizome, upright, simple and bifid, elliptic, linear and spatulate, obtuse,  $\frac{1}{4}$ – $\frac{3}{4}$  inch high, about 1 line wide, margins often thickened, black and shining; laciniate-serrate, serratures distant, sometimes dark and rigid, and shining like margins; midrib thick, glossy, dark like stipe, no lateral veins; stipe short, 1–2 lines long, not winged, glabrous, dark brown. Involucre single at tip of frond, elliptic, free, less than 1 line long, flattish, slightly convex; valves free to base, margins entire, black bordered; borders shining; receptacle included; sori few, large.

*Hab.* Woods, Whangaroa, County of Mongonui; 1884: Mr. R. W. Rowson.

*Obs.* A very peculiar little species, and one of the smallest known of the genus. Its affinity is with *H. marginatum*, Hook. and Grev., of Port Jackson, Australia (a scarce and little-known fern), from which species, however, it is very distinct. It has also some affinity with *H. parvifolium*, Baker, an East-Indian fern of about the same size, but is, also, quite distinct.

###### 2. *H. lophocarpum*,<sup>1001</sup> sp. nov.

A climbing fern, mostly pendulous from upper parts of trees. Rhizome creeping, long, branched, hairy. Fronds rather distant on rhizome, glabrous, spreading, flat and slightly waved, transparent, light green when young darker in age, elastic and curled up when dry, rhombic- or ovate-acuminate, apical portion often narrow-elongate, usually dimidiate at base, 2 $\frac{1}{4}$ –4 inches long, twice the length of stipe, 3-pinnatifid; pinnae alternate, sometimes very close and sub-imbricate, the lowest pinna solitary and very short; rhachises, main and secondary, dark, flexuose, finely tuberculate and striate, winged; wing wide and mostly waved; secondary segments, sub-flabellate, not branched on the lower or outer side; veins dark; ultimate segments or lobes rather long, linear, obtuse, apices rounded, nerves green not extending to margin; margins entire; cellules large, of various shapes and sizes, mostly sub-orbicular and oblong. Stipe stout, 1–1 $\frac{1}{2}$  inch long, blackish, shining, striate, roughish, narrowly winged to base, and (with rhachis) slightly hairy (very hairy when young); hairs scattered, long, brownish, tortuous, jointed and transparent. Involucres free, large, sub-orbicular, loose, rumpled or bladdery, wider than lobes, turgid, much larger than sori, confined to upper portion of frond [256] and extending to tip, but always supra-axillary and not terminal on lobes; valves free to base, convex, entire, sometimes slightly sinuate or uneven at tip, not toothed, largely crested, the upper one most so, with 3–4 erect lamellæ that are often high and nodding, and wider at apex than at base, not "spinulose" nor "spinuloso-dentate." Receptacle very short,  $\frac{1}{3}$  length of involucre, peduncled, clavate, finely

puberulous, with sporangia only around the tip; sporangia few, very large, sessile; sporules globular, green, and enclosed in a fine transparent white membrane, separate from the sporangium.

*Hab.* On trunks and main branches of trees, hilly forests in the interior, Seventy-mile Bush, County of Waipawa; 1860–84: W.C.

*Obs. I.* This fern has the same peculiar and strong though unpleasant odour that pertains to a few other of our New Zealand ferns, and to some of our foliaceous *Hepaticæ*, which odour it long retains, as well as its elasticity. It also stains paper, leaves of a book, etc., in which it is kept, of a dark colour, often leaving a faithful outline impression. In exposed dry situations, in hot dry weather, this fern will be seen dry and completely rolled up; but on rain falling it again recovers and expands, like some mosses. It is generally found much gnawed and eroded by insects, more so than other species of the genus (allured, probably, by its powerful odour), so that it is rather difficult to obtain fully-developed uninjured specimens.

*Obs. II.* I have long known this fern, and had early supposed it to be distinct from *H. polyanthos* and *sanguinolentum* (possibly merely as a variety or "sport," but still very distinct). During the last two years, however, I have been induced to pay more attention to it; to study and to examine it closely and repeatedly in the living state and in all stages in its native woods. An extra inducement thereto arose from my obtaining (in addition to the "Flora Novæ-Zelandiæ," and the several commoner works or compilations of ferns,) Hooker and Grev. Ic. Filicum, Swartz (original) Synopsis Filicum, Beddome's Ferns of British and Southern India. Van den Bosch Hymen. Java, and Clarke's Review of Ferns of Northern India, drawn up and aided at Kew (Trans. Linn. Soc. Lond. 1880: Botany, vol. i., part vii.), in all which works *H. polyanthos* and its allies and synonyms are particularly described and investigated. And the conclusion I have come to is, that this fern (*H. lophocarpum*) is really distinct from *H. polyanthos* and *sanguinolentum*, and also from their synonyms included as above. Indeed, in my opinion, there is no near affinity between this fern and *H. polyanthos*, Sw. (as that is fully given in description drawing and dissections by Hook. and Grev. in their Ic. Filicum, vol. ii., t. 128, which I take to be a type specimen of that species); *H. polyanthos*, Sw., being also a West-Indian (Jamaica) fern. Neither is there any close [257] relationship between this fern (*H. lophocarpum*) and *H. prostratum*, Hook.; which species Baker has more recently (in his "Synopsis") united with *H. polyanthos*. While from *H. polyanthos* and *H. polyanthos*,  $\beta$ . *minor* (Bedd. Ferns Brit. India, tt. 280 and 306), *H. blumeanum*, *pycnocarpum*, and *integrum*, (Van den Bosch, Hymen. Java, tt. 36, 37, 38), which ferns Clarke unites with *H. polyanthos*, as being one species (?) and not even sub-varieties,—this fern of mine disagrees still more strongly. Of *H. sanguinolentum* I might say the same; but seeing it is not now recognized as a distinct species or variety by modern authorities, and omitted altogether by Baker from his "Synopsis;" while Swartz himself observed of it, that it was very near to his *H. clavatum* (another Jamaica fern), differing only in form and colour,—and both of these ferns were long ago included by Sir W.J. Hooker, in his "Sp. Filicum," as forming but one species with *H. polyanthos*—I have no need to remark especially upon it.

In fine: this species (*H. lophocarpum*) differs from *H. polyanthos* and its several synonymous allies (*supra*), in

1000 *Hymenophyllum armstrongii* (Barker) Kirk.

1001 *Hymenophyllum sanguinolentum* (G. Forst.) Sw.

outline, in appearance, in colour, in substance both of stem and lamina of frond, in shape of segments and lobes, in position form and appendages of involucrum, in the receptacle and sporangia, and in its peculiar hairs. In its fresh natural and perfect state, it is one of the very handsome New Zealand species of this lovely genus of ferns. I have thus written largely on it, after a prolonged and patient investigation, for the sake of future working botanists.

#### Genus 22. *Polypodium*, Linn.

##### 1. *Polypodium rupestre*, Br., var. *sinuatum*,<sup>1002</sup> Col.

Rhizome long, rather stout, creeping, branched, climbing trees, scaly; scales ovate-acuminate, light brown, fixed by centre. Fronds scattered but not distant, erect, of 2 or more forms tapering into long and very slender stipes, somewhat coriaceous, margins recurved, veins largely anastomosing and visible between eye and the light, densely covered with white stellate hairs; hairs 10–11-rayed with brown centres, giving the plant a finely spotted appearance; barren fronds 4–5½ inches long, 1–1¼ inches wide, rhomboid- and oblong-lanceolate, coarsely sinuate, almost crenate; fertile 8–8½ inches long, 8 lines wide, broadly lanceolate, margins sinuate, tips sub-acute; stipes of both barren and fertile fronds 2 inches long, with a thick cluster of imbricated scales at bases; base-scales ovate-acuminate, minutely tuberculate. Sori rather small, often oblong, and distant.

*Hab.* On living trees, woods, Seventy-mile Bush, between Matamau and Danneverke, County of Waipawa; 1883–84 (also in woods, East Coast): W.C.

*Obs.* A very fine and striking variety (as I take it) of the well-known and common *Polypodium rupestre*; it is not only a much larger plant than [258] that, but it is also thinner, and sori smaller often oblong and less prominent, more hairy on both surfaces, and stellate hairs with a larger number of rays; the copious scales too are different. When I first detected this plant in the woods on the East Coast in 1846, I noticed only a few specimens, and I thought it was only a "sport" of *P. rupestre*; but where I lately found it, it was very plentiful.

#### ORDER IV. MUSCI.

##### Genus 41. *Bartramia*, Hedwig.

##### 1. *Bartramia readeriana*,<sup>1003</sup> sp. nov.

Stems densely tufted, tall, robust, ascending, ½-inch diameter, 1½–3½ inches long, vaguely dichotomously branched, thickly tomentose with red branched and implexed tomentum; branches above fascicled, strict, almost glabrous, red. Leaves spreading (some are truly divaricating, at first spreading then bent downwards), pale yellow-green, shining, with a short sheathing base, ovate-lanceolate, acuminate, gradually narrowed into a very long hair-like point, serrulate to tips, plaited, minutely papillose, twisted (to the right) when dry contorted; nerve slender, percurrent; cells dense, linear, the marginal at the base larger oblong and translucent; perichaetal leaves broader with lax cells. Fruitstalk 1–1½ inches high, erect, red, shining. Capsule large, inclined or horizontal, ovoid, grooved when dry; operculum convex, apiculate; teeth red; spores very minute.

1002 Possibly *Pyrrosia eleagnifolia* (Bory) Hovenkamp.

1003 *Breutelia pendula* (Hook.) Mitt.

Calyptera 2 lines long, narrow, blackish at tip, apiculate. Inflorescence dioecious; antheridia capitulate.

*Hab.* Among *Hepaticæ* on dry elevated ridges, open woods, Seventy-mile Bush, between Norsewood and Danneverke, County of Waipawa; 1882–84: W.C.

*Obs.* I. A species allied to *B. pendula*, *sieberi* and *comosa*; differing from *pendula*, mainly in the very long points of the leaves, that are twisted when dry and papillose, and in the erect capsule; from *sieberi*, in the shining long-pointed and twisted leaves; and from *comosa* in the long-pointed, twisted and broader leaves, which are serrulate throughout, its densely tomentose stems, and apiculate operculum; and from all three species, also, in the translucent marginal cells at the base of leaves. It appears, however, to be nearest to this last species—*comosa*.

*Obs.* II. This species seems to be scarce; hitherto I have only detected it in two similar open ridgy spots, growing two-thirds concealed among dense and erect pale *Hepaticæ* (*Mastigobryum*, sp. nov. ?); and then only in small quantities, and rarely found in fruit, although I have visited those places some twenty times in hopes of finding good fruiting specimens. From its dense and shaggy tomentum, and intermixed habit among the *Hepaticæ*, and aged appearance it seems to be of very slow growth. [259]

*Obs.* III. I have with pleasure named this species after Mr. F. Reader (formerly of Blenheim, New Zealand, but now of Victoria), an amiable, persevering and unassuming young botanist, and diligent collector of plants, especially mosses; which Order he has long made his particular and close study, and that from pure love of nature, and not for mere pecuniary gain.

##### Genus 71. *Hookeria*, Smith

##### 1. *Hookeria trichophora*,<sup>1004</sup> sp. nov.

Plant small, under 1 inch high, densely tufted, stems erect; branches red, stout, ½–¾ inch long, simple and branched above, rooting below. Leaves minute, ¼ of a line long, sub-quadrifarious, oblong-orbicular, acuminate, serrulate half-length down from tip, nerve about half-through; crisp when dry; cells very small above, increasing in size downwards from apex of nerve and very large at base; perichaetal erect, sub-ovate-lanceolate, acuminate. Fruitstalk erect, ½–¾ inch long, longer than stems, flexuous, smooth, red, springing from below the base of a branch, thickened and rooting at base. Capsule oval, inclined or horizontal, sub-apophysate, reddish, beak long, curved upwards. Calyptera white, fimbriate at base, tip black and hairy; hairs loose and very long.

*Hab.* In patches on rotten trunks, deep and wet forests, Norsewood, County of Waipawa 1884: W.C.

*Obs.* A species having some affinity with *H. apiculata* and *rotundifolia* differing from the former in its nerve and small cells; and from the latter by its small cells and white and hairy calyptera.

##### 2. *Hookeria sciadophila*,<sup>1005</sup> sp. nov.

Plant 1–1½ inches high, sub-flabellate, bipinnately branched, thickly tomentose below on main stems with branched red-

1004 Possibly *Distichophyllum rotundifolium* (Hook.f. et Wilson)  
Mull. Hal. et Broth.

1005 Not found.

brown hairs; branches flat, compressed, 3–4 lines wide, slightly concave, dark below, branchlets and leaves closely imbricate. Leaves sub-quadrifariously disposed, broadly elliptic, round at tips, above 1 line long, spreading, flat, light green, nerve extending nearly to margin, margin entire and very thin; cells small in regular hexagons in the upper portion, and in very large oblong-hexagons at lower half of nerve and base of leaf; perichaetial small, ovate, nerve stronger and cells larger. Fruitstalk lateral, springing from base of branchlets, 3 lines long, black, flexuous, shining, incrassated at base with a sheathing ring; 2–3 together on a branchlet. Capsule oblong, sub-erect, regularly and finely reticulate; operculum conical, beak long. Calyptora small, glabrous, very acuminate, tip black, slightly and finely lacerate at base.

*Hab.* On the ground, sides of deep narrow watercourses, dark forests near Norsewood, County of Waipawa; 1883–84; W.C. [260]

### 3. *Hookeria luteo-virens*,<sup>1006</sup> sp. nov.

Plant largely gregarious, stout, sub-erect, 2–2½ inches high, dichotomously branched above, branches sub-compressed, 5–6 lines wide, stem stout, dark brown. Leaves sub-quadrifariously disposed, oblong-orbicular, 2 lines long, obtuse and rounded at tip, dorsal and ventral smaller and more orbicular, minutely papillose, thin, margins entire, light green, whitish and yellowish at tips, slightly convex, densely imbricated; nerve short, forked, slender, green, largely cellular; cellules (of leaf) large, sub-orbicular, smaller at margins and apex, larger and oblong at base; perichaetial erect, small, sub-rhombic, nerveless. Fruitstalk stout, 1¼ inches long, smooth, flexuous, twisted, slightly sulcate, dark brown, thickened at base. Capsule oblong, reddish, smooth (minutely reticulate under a lens), cernuous, slightly tuberculate at base; tubercles few and mostly above, round, smooth; cells of capsule large, oblong; external teeth 4-lined longitudinally, pretty closely trabeculate, strongly denticulate, reddish. Calyptora large scabrid, whitish, ragged at base.

*Hab.* Sub-pendulous on sides of shaded cliffs, in large patches, but rarely fruiting, in forests, Seventy-mile Bush, County of Waipawa; 1883–84: W.C.

*Obs.* A fine species having affinity with *H. quadrifaria*, but differing in several particulars.

### 4. *Hookeria lophophora*,<sup>1007</sup> sp. nov.

Stems simple and slightly once-branched, flat, sub-erect, 1½ inches high, 4 lines broad, thickly clothed between leaves with large red branched transparent and jointed hairs. Leaves pale, densely imbricated, sub-quinque-fariously disposed, the lateral ones spreading, crisp when dry, broadly oblong-apiculate, 2 lines long, very thin, transparent, margined, upper portion sharply serrulate; nerve forked; dorsal and ventral similarly shaped but smaller; cells lax, orbicular-hexagonal in the upper part of leaf, larger and oblong-hexagonal in the central and lower part; perichaetial oblong, very acuminate. Fruitstalk springing from near the top of stem, 2½ lines long, stout, pale, hairy; hairs short, patent; much fimbriate at top; fimbriæ erect, crest-like, nodding over apophysis. Capsule apophysate, inclined or horizontal, sub-obovate, turgid, red, finely reticulated,

shining, tuberculate at base; apophysis dark brown. Calyptora not seen.

*Hab.* In dry woods, hill country near Napier.

*Obs.* A species allied to *H. cristata*.

## ORDER V. HEPATICÆ

### Genus 25. *Noteroclada*, Taylor

#### 1. *Noteroclada perpusilla*,<sup>1008</sup> sp. nov.

Plant very small creeping, densely compact, under 1 inch long, 2 lines wide, branched, branches very short about ½ inch long, deeply pinnatifid or sub-pinnate, glabrous, glistening, light green; midrib or stem stoutish, [261] and clothed beneath with purple-brown rootlets; leaves or lobes, sub-flabellate, under 1 line diameter, very thin, transparent, minutely crenulate on upper margin, closely imbricated at base free above; involucral leaves paler, longer, and lacerate at tips; areolæ minute but prominent, sub-rhomboid-orbicular, more oblong in involucral leaves; stipule 0 perianth terminal and sub-terminal on short lateral branchlets, cylindric, oblong, whitish, mouth gaping, jagged, often two together closely adjoining at tip; peduncle rather stout, striate and septate, 3 lines long; capsule globular, minutely pitted, at first purple afterwards brown, bursting irregularly, 3–4 valves; valves sub-rhombic-ovate, lacerate, minutely reticulate.

*Hab.* Among mosses, etc., shady banks, Scinde Island, Napier; August, 1883: W.C.

### Genus 26. *Petalophyllum*, Gottsche

#### 1. *Petalophyllum australis*,<sup>1009</sup> sp. nov.

Rhizome short, stout, fleshy, with fine hair-like rootlets. Frond single, procumbent, sub-rotund, 6–8 lines diameter, reflexed, sub-bilobed, largely lamellate waved and crisped above, nerved below, margin sinuate and finely crenulate, colour bright light green with reddish-brown margins; perianth large, bell-shaped, open, crisped, mouth much lacinate; peduncle stout, 1¼ inches long, white, succulent, very tender; capsule large, globular, more than 1 line diameter, dark brown, finely pitted, bursting irregularly and raggedly, bearing large brown tessellated markings; sporules circular and tuberculated elaters geminate, twisted and truncate.

*Hab.* Among mosses and *Hepaticæ*, Petane, near Napier; 1883: Mr. Hamilton.

*Obs.* A rather scarce, or, from its smallness, overlooked plant, possessing pretty close alliance with the single British species *P. ralfsii*, which it also resembles. I have only seen 3 specimens that I picked out from among mosses and *Hepaticæ*.

### Genus 30. *Symphyogyna*, Mont. and Nees.

#### 1. *Symphyogyna crispula*,<sup>1010</sup> sp. nov.

Plant terrestrial, single, stipitate, erect, dark green. Frond dichotomous, flabellate, 6–8 lines long, 9–12 lines broad, segments broadly-linear, 2 lines wide, very obtuse, deeply emarginate, distantly serrate above and in sinuses but not

1006 Not found.

1007 *Calyptrochaeta cristata* (Hedw.) Desv.

1008 *Fossombronia perpusilla* (Col.) Steph.

1009 *Stet.*

1010 *Symphyogyna hymenophyllum* (Hook.) Mont. et Nees.

below, undulate and crisped, wide at base and broadly decurrent on stipe; cellules large, elliptical, nerves dark brown, stout, extending to base of apical notch. Stipe dark brown,  $\frac{1}{2}$  inch long, stout, flexuose, with fine rootlets at base. Involucral scale on upper surface at main forks and scattered on nerves, several on a frond, middle size,  $1\frac{1}{4}$  lines wide, papillose, very lacinate; lacinae irregular and transversely barred. Calyptra stout, 2 lines long, shortly peduncled, sub-clavate, finely papillose, light green, largely fimbriate at mouth; fimbriae red, stout, truncate, barred. [262]

*Hab.* Bases of wet and shaded cliffs, sides of the River Mangatawhainui, near Norsewood, County of Waipawa; May, 1884: W.C.

*Obs.* A species allied to *S. melanoneuron* and *vulgaris* ("Trans. N.Z. Inst.", vol. xvi., pp. 351, 352), but distinct from both.

## 2. *Sympygyna flavo-virens*,<sup>1011</sup> sp. nov.

Plant terrestrial, densely gregarious and compact (like moss), stipitate, erect, single, very light green. Frond small, once forked, diverging and irregular, 3–4 lines long, 6–7 broad, sub-flabellate, each fork having 2–4 short segments, segments narrow, linear, about 1 line wide, round at tips and deeply emarginate, slightly and distantly serrate, much undulated and crisped, truncate and incurved at base concealing scale, not decurrent on stipe; cellules large, sub-quadrata-orbicular; nerves same colour as frond and not extending to base of notch. Stipe stout, flattish, sub-succulent, light pink,  $\frac{3}{4}$ –1 inch long, very flexuous, 2-nerved, thickened and rooting at base. Involucral scale on upper surface at main forks, 1–2 on a frond, very small, ovate, lacinate. Calyptra large, erect, 4 lines long, cylindrical, whitish, generally extending beyond margin of frond, mouth lacinate and fimbriate. Seta slender, 1 inch long. Capsule linear-oblong, apiculate, 2 lines long, dark brown, finely longitudinally striate.

*Hab.* Shady sides of hills, west side of Ruataniwha Plains, County of Waipawa; 1884: Mr. H. Hill.

## Genus 32. *Aneura*, Dumort.

### 1. *Aneura polyantha*,<sup>1012</sup> sp. nov.

Plant green, small, creeping, spreading, very flat, effuse, but often forming a circular patch about 1–1½ inches diameter, radiating from the centre: fronds flattened, thickish, scarcely branched, pinnatifid, lobes rounded, obtuse, crenately cut, generally broadest at apices and sub-flabellate. Calyptas very numerous, 20–40 close together, arising from the centre of the plant, sometimes 2–3-fascicled, above 1 line in height, brownish-white, cylindrical, minutely and much tubercled. Seta nearly 1 inch long; capsule linear-oblong, brown, smooth, segments rather long with numerous and large elaters at tips.

*Hab.* On denuded rotten branches, in dense wet woods near Norsewood, County of Waipawa May, 1884: W.C.

*Obs.* A pretty and very distinct little species: its numerous upright calyptas standing so close together give it a curious sub-corallloid appearance.

## 2. *Aneura biflora*,<sup>1013</sup> sp. nov.

Plant spreading, effuse, crisp, waved and rumpled, sub-imbricate; branchlets 1–1½ inches long, sub-ovoblate, somewhat pinnatifid, lobes sub-rotrund, round at tips, finely and regularly denticulate, with numerous short brownish rootlets beneath. Calyptra 5 lines long, cylindrical, slightly [263] rugulose, broader towards top, hairy about tip; hairs short, patent; mouth small, contracted, much tuberculated at base, springing from frond in pairs, greenish-white at first, brownish-white in age.

*Hab.* Epiphytical on *Hookeria* (sps.) and other mosses and *Hepaticæ*, but easily separated; growing low down in sides of dark water-courses, hill forests, near Norsewood, County of Waipawa; 1883–84: W.C.

*Obs.* A species near to *A. orbiculata*, and *imbricata*, Mihi: "Trans. N.Z. Inst.", vol. xvi., p. 359.

## Genus 39. *Anthoceros*, Micheli.

### 1. *Anthoceros pellucidus*,<sup>1014</sup> sp. nov.

Plant prostrate, spreading, effuse, 2–6 inches diameter, densely imbricate, thin, transparent, fragile, crumpled, minutely tuberculate, light green, cells large, nerveless, with a few very fine rootlets at the extreme base: fronds  $\frac{1}{2}$ –1½ inches broad at top, mostly narrow at base, sub-flabellate, more or less branched or deeply lacinate at top, irregularly lobed; lobes largely crenate or rounded at tips, margins free, sub-erect, finely and irregularly torn and sub-fimbriate; some fronds are very narrow,  $\frac{1}{2}$ –2 lines wide, pinnatifid (like *Aneura multifida*). Involucrum stout, conical, finely tuberculated near base, generally 3 or more arising from centre of a frond, 1–2 lines high, lips sub-bivalve, scarious. Capsule linear very narrow, almost filiform, arcuate, 8 lines long, light brown, dehiscing centrally on both sides and then margins reflexed, cohering at tips; columella exceedingly fine; spores light brownish-green; elaters large, numerous. Gemmae, little oblong dark green bodies immersed and scattered in the frond. Apparently the seeds and filaments are at first contained in a thin transparent membrane around the columella, which is soon ruptured.

*Hab.* On rotten logs in dark wet woods, spreading over and adhering to other small *Hepaticæ*, mosses, dead twigs, etc., near Norsewood, County of Waipawa; 1882–84: W.C.

## ORDER VII. LICHENES

### Genus 5. *Sphaerophoron*, Persoon

#### 1. *Sphaerophoron vividulum*,<sup>1015</sup> sp. nov.

Thallus sub-cæspitose, with a few small scales at the base, erect, flat, 1–1½ inches high, main stem 1–3 lines wide and unbranched below, sub-palmate and dichotomous above, very smooth and slightly convex on the upper surface, rugulose pitted on the lower, edges entire, whitish beneath, light green above when living, but a dull olive-green when dried; upper branchlets numerous, very narrow  $\frac{1}{30}$ – $\frac{1}{40}$  inch wide, sub-linear-clavate, ultimate segments cuneate-truncate, obconic, and spatulate, narrower at

1013 *Stet.*

1014 *Megaceros pellucidus* (Colenso) E.A. Hodgs.

1015 *Sphaerophorus melanocarpus* var. *australis*. f. *vividulus* (Col.) Murray.

bases, having a sub-articulated appearance like some species of *Corallina*. Apothecia very small on slightly raised hemispherical receptacles just below [264] the edge of the ultimate segments, usually two apart—one at each angle, sometimes three on a broad, and one only central on a narrow, segment; at first light brown, closed, with a finely puberulent covering, afterwards the minute ostiole opens, and the black shining capitulum is protruded.

Sometimes the thallus is largely coloured bright red on both surfaces, as if red ink had been splashed over it; this colour is permanent.

*Hab.* On trunks of *Fagus solandri*, forests near Norsewood, County of Waipawa; 1880–84: W.C.

*Obs.* I have known this pretty species for many years, but always (until this year) barren. Specimens that I had long ago sent to England in that state, were supposed to be small ones of *S. australe*, Laur. (*S. compressum*, Ach.), but I never could bring myself to believe it, the difference being so great between them, especially when closely compared together in a living state. It is, however, very rarely found in fruit, like some of its European congeners.

## 2. *Sphaerophoron (?) stereocauloides*, Nyl.

Plant ascending, bushy, diffuse, 8–10 inches diameter; height 4–5 inches; main stems very stout, sub-cylindrical,  $\frac{1}{2}$  inch circumference near base, 6–8 springing separately from one root-stock or thick and flat broad disc 1 inch diameter; spreading, prostrate, naked below and adhering by fresh large rooting discs; much and thickly branched above, transversely and finely fissured; branches flattish, sub-flabellate, and dichotomous, naked here and there on upper and under surfaces but not on the sides; general colour greyish-white, stems more white with a light pinkish tinge; branchlets numerous crowded, densely covered with many short compound spurs or branchlets, composed of cylindrical and sub-angular obtuse and clavate fibrils that are patent sessile and fascicled, and sometimes coalescent, bearing at tips small black circular soredia. Apothecia large, globular, 1–3 lines diameter on tips of branches, mostly solitary sometimes 2–3 together, much broader than branch or peduncle, which is naked, sub-terete and lacunose, 1–2 lines long; receptacle cernuous, smooth and naked or slightly lacunose on the outside, bursting irregularly, containing numerous globose black rough spores entangled in a mass of thin flat hairs; "diameter of spores .01 mm" (Dr. Knight). *Sph. robustum*, Col.

*Hab.* Stony declivities in hilly forests, west side of highway, Seventy-mile Bush, County of Waipawa 1882: W.C. And on east slopes of Ruahine Range (same county): 1884: Mr. A. Hamilton.

*Obs.* This fine Lichen has given Dr. Knight and myself some study and research. Believing it to be another new species of this small and peculiar genus, I early referred a specimen of it to Dr. Knight's superior judgment, who agreed with me that it was a new species, and closely allied to *Sphaerophoron stereocauloides* of Nylander. Subsequently, however, on my [265] forwarding larger and better specimens to Dr. Knight, and on his re-examination of them, he found the plant to be identical with the species named by Nylander (*supra*), which Lichen Dr. Knight had himself sent in 1868 from New Zealand to Nylander, and it was published by him in the "Flora," No. 5, 1869 (a French serial). Notwithstanding, from that work being so little known here (Dr. Knight, the original publisher of the plant,

not having republished it), and the plant itself so fine and rare and new to us—with, also, some differences as to size, etc., between Dr. Nylander's and my own measurements and descriptions—I bring it now forward, together with Dr. Nylander's description, kindly transcribed for me by Dr. Knight, from the foreign botanical work above-mentioned.

"*Sphaerophoron stereocauloides*. Thallus ei pallidus v. albidus, dendroideoramosus, teres, (alit. 10–12 centimetrorum et trunco primario basi crassit. circiter 2 mm.) cortice sat conferte transversim supra diffracto, ramis et ramulis fibrillis teretibus, divisus vel ramosis conferte minutis; apothecia in receptaculis subglobosis inclusa; sporae globosae vel subglobosae, diam. 0.008 ad 0.01 mm. Legit Dr. Knight."

## ORDER VIII. FUNGI

### Genus 69. *Xylaria*, Fries

#### 1. *Xylaria polytricha*,<sup>1016</sup> sp. nov.

Sub-succulent, fleshy, black and densely hairy; hairs rigid, patent. Stem 1 inch long, cylindrical, rather stout. Receptacle obovate, and spatulate, 6–7 lines long, 3–4 lines broad, thickish, margins sinuate above, tip obtuse, deeply and broadly grooved on one side, obtusely keeled on the other: some specimens are shortly 2-lobed at top, lobes cylindrical, tips round; others have a small obovate and sessile head, or lobe, springing laterally from stroma low down; perithecia not visible; hairs (*sub lente*) brown-black, lanceolate, twisted, acute.

*Hab.* On the earth among mosses, etc., at Glenross, near Napier; 1884: Mr. D. P. Balfour.

*Obs.* A species having affinity with *X. castorea*, Berk., originally discovered in forests in this same locality; and also with a few of Montagne's South American species.

## 1884 A list of Fungi recently discovered in New Zealand.

*Transactions of the New Zealand Institute* 17: 265–269.

[Read before the Wellington Philosophical Society, 1st October, 1884.]

LAST year (1883) I detected several peculiar and interesting Fungi in the woods and glens of the Seventy-mile Bush, Waipawa County, that were new to me; these, with a few others already known but rare, I exhibited at [266] two of the ordinary meetings of the Hawke's Bay Philosophical Institute held in 1883; and although I knew the genera of some of them, yet in order the better to ascertain their generic and specific distinctions and positions in this very intricate *Order* of plants, I forwarded specimens to Sir J.D. Hooker at Kew. From him I have lately received a list of them, kindly drawn up by that eminent fungologist, Dr. Cooke, which list I now give, together with a few brief and

1016 *Stet.*

plain popular notes concerning those species now for the first time found in this country.

And here I may observe, that out of 26 distinct species forwarded in this little lot to Kew, 21, belonging to 20 genera, have been now detected in New Zealand; yet of these no less than 19 species are known from other countries, mostly the Old World; so that there are only two really new species in the whole lot!

This circumstance, however, is neither strange nor unexpected; for in the *Annales des Sciences Naturelles* an account has been given by M. Montagne of the Fungi transmitted from Juan Fernandez by Bertero, consisting of 56 species; of these there is scarcely more than a third which are not referable to well-known European species,—and only one which requires the formation of a new genus for its admission. So, also, of those numerous species of Fungi described by Sir J.D. Hooker in the "Handbook of the New Zealand Flora," a large proportion of them are European and cosmopolitan.

Sir J.D. Hooker, in his accompanying letter to me, remarks on this curious incident, saying:—"While many of them are already well-known to science from other countries; on the other hand, almost all the species you have now sent are new to the islands of New Zealand, and thus give an idea how vast a number of widely distributed forms remain to be collected."

#### **1. *Polyporus exiguus*,<sup>1017</sup> sp. nov.**

A small semi-stipitate flabellate whitish fungus, of horizontal growth, among mosses, on the bark of old trees near their bases; wet woods near Norsewood, Waipawa County; 1883: W.C.

#### **2. *P. fomentarius*, Fr.**

This species of fungus is the real *Amadou* or German Tinder, and is very generally distributed over the globe. Berkeley says of it (*Introduction to Crypt. Botany*) that "it is one of the few undoubted instances of fungus occurring in a fossil state. In the Kew Museum a British specimen may be seen together with one from Sikkim, the accordance of the two being quite perfect" (p. 252). Again: "*P. fomentarius* not only supplies *Amadou*, but has been manufactured into coarse clothing" (p. 364). And, such being the case, it almost leads me to doubt the specific identity of the New Zealand plant, because this plant is excessively hard and tough to cut [267] or break—requiring an axe; and while it grows to a tolerably large size, 5–7 inches, flat, irregular, and overlapping (*stratum super stratum*), it is not very thick; evidently of slow growth, perennial and aged, of a bright yellow-brown colour, and somewhat resembling a slab or cake of ginger-bread. Owing to its excessive hardness, I could only with my knife secure a small portion as a specimen. On trunks of *Fagus solandri*, but not common; dry hilly woods near Norsewood; 1883: W.C.

#### **8. *Hydnus alutaceum*, Fr.**

A tawny prostrate effuse plant, growing in large patches on bark of trees; woods, with No. 1; 1883: W.C.

#### **4. *Irpex zonatus*, B. and Br.**

A small tawny-orange semi-stipitate sub-flabellate fungus, often gregarious and imbricate, and sometimes prostrate and effuse (apparently 2–3 vars.), growing among mosses and dead logs, same forests with the preceding (Nos. 3 and 1); 1883: W.C.

#### **5. *Stereum lugubris*, sp. nov., Cooke.**

This is a most peculiar and elegant plant; pileus 1–8 inches broad, sessile, lateral, thin, rumpled, and zoned above with alternate grey and black bands, growing profusely and closely imbricated, sub-horizontal and pendulous—resembling small epaulettes,—a pretty sight. On dead trunk of *Fagus solandri*, in river bed (high and dry) near Norsewood; but though very plentiful there, only noticed on that one tree;<sup>1018</sup> 1883: W.C.

#### **6. *Dictyonema aeruginosa*, Ag.**

A small effuse horizontal species, over-running mosses, etc., belonging to a curious and tropical genus, long considered to be an *Alga*. In woods, with Nos. 1 and 2; 1883: W.C.

#### **7. *Cyphella discoidea*, Cooke.**

A small circular fungus adnate on long-rooted cat's耳 (*Hypochaeris radicata*), in fields, Napier; 1881–83: W.C.

#### **8. *Clavaria acuta*, Sow.**

A curious minute stipitate white clavate fungus, growing in little patches among *Hepaticæ*, but not common; on earth, sides of shady cuttings near Norsewood; 1883: W.C.

#### **9. *Tremella albida*, Huds.**

A small erect white foliated gregarious fungus, gelatinous when fresh; on rotten logs, in wet dark woods near Norsewood; 1883: W.C.

#### **10. *Puccinia malvacearum*, Corda.**

On leaves of mallow (*Malva sylvestris*), in my paddock, Napier; 1881–83: W.C. [268]

#### **11. *Tilmadoche nutans*, Pers.**

A curious minute simple stipitate fungus bearing a globular head of perithecia, having a greyish semi-metallic appearance when fresh and before bursting; growing in small patches among *Hepaticæ*, etc., on rotten logs, open skirts of woods near Norsewood; 1882: W.C. Glenross 1883: Mr. D. P. Balfour.

#### **12. *Aspergillus glaucus*, Lk.**

On fruit of black currant (*Ribes nigrum*); gardens, Waipukurau; 1882–83: W.C.

1017 Stet.

1018 WC: As this is a species nova, and possibly but little known here among us, I may remark that, in form and appearance, it is much like those sp. nov. of the same genus from Queensland, recently described by Berkeley and Broome in "Transactions Linn. Soc. London," 2nd series, Botany, and figured in tab. 46, vol. i., and in plate 14, vol. ii.

**13. *Fusisporium miniatum*, B. & C.**

A minute cinnabar-red fungus, sessile, gregarious in round dots, on dead logs of *Fagus solandri*, in river-bed near Norsewood; 1883: W.C.

**14. *Peziza (Hymenoscypha) scutula*, P.**

A minute stipitate fungus, parasitical on leaf of *Knightia excelsa*; wet woods with No. 9; (apparently very scarce); 1883: W.C.

**15. *Solenia candida*, Fr.**

A peculiar looking small horizontal effuse scurfy whitish fungus, full of transverse fissures, spreading on rotten logs; woods, with preceding; 1883: W.C.

**16. *Xylaria filiformis*, Fr.**

An extraordinary plant! at first horizontal, of effuse pink or pink-red hyssoid growth, and forming vermicular-like markings, adhering closely to dead leaves (matrix); afterwards erect long wiry black and flexuose (like stout hairs), bearing large moniliform perithecia: originally found on west flank of Ruahine mountain range, emerging from dead leaves of *Coriaria ruscifolia*, but barren; 1850: W.C.: and in fruit at Glenross; 1883: Mr. D. P. Balfour.

**17. *Sphaerostilbe cinnabrina*, Tul.**

A minute orange-red circular and convex sessile fungus, found growing gregariously in little scattered masses about roots of living trees, woods near Norsewood; a curious and elegant plant; 1883: W.C.

**18. *Valsa (Fuckelia) turgida*, Fr.**

A peculiar looking large prostrate spreading whitish fungus, the stroma (resembling the crustaceous thallus of a lichen of the *Graphidei* tribe) having scattered dark-umber linear perithecia, 1–2 lines long, erumpent and bursting; on the bark of a dead tree, dry hilly woods near Norsewood; (only one large patch noticed) 1883: W.C.

**19. *Antennaria scorpiodes*, B.**

This peculiar fungus assumes two forms:—1. When young, spreading in long dark ribbon-like lines over mosses, etc., as if laid on with a brush; very plain when wet but scarcely visible when dry: 2. On bark of living [269] trees, bristly, black, horizontal, 1–1½ inches long, of dense bushy growth, perennial, bearing moniliform fruit. Woods near Norsewood, also near Matamau; 1883: W.C.

**20. *Hemiarcyria serpula*, Rtfi.**

This is a most curious small fungus; a substance that, at first sight, might well be taken for some small smooth worm, coiled up and hibernating; it is orange-coloured, smooth, vermicular (in size, like small pieces of vermicelli, or coloured silk cord), soft and tender, so as to make it difficult to preserve a good specimen. Found under large foliaceous lichens (*Stictae*), on rotten logs, dry elevated woods near Norsewood; (but scarce); 1883: W.C.

**21. *Chroolepus aureum*, Ag.**

A curious small reddish woolly convex and spreading fungus, forming little cushions, adnate on lichen (*Thelotrema*) on bark of living *Dacrydium cupressinum*;

forest between Matamau and Danneverke, Waipawa County; 1883: W.C. (N.B.—The colour changes to light green in drying and keeping.)

The following more or less rare Fungi (but already collected in New Zealand, see "Handbook of the New Zealand Flora"), were also in the lot, viz.:—

*Polyporus australis*, Fr.

*Thelephora pedicellata*, Schw.

*Stereum lobatum*, Kze.

*Guepinia spathularia*, Fr.

*Secotium erythrocephalum*, Tul.

**1884 In memoriam. An account of visits to, and crossings over the Ruahine mountain range, Hawke's Bay, New Zealand; and of the natural history of that region; performed in 1845-1847: cum multis aliis.**

Daily Telegraph Office, Napier. iv, 74 p.

"For out of the old feldis, as men saith,  
Comith all this newe corne from yere to yere;  
And out of olde bokis, in good faith,  
Cometh all this newe science that men lere." CHAUCER

"Similis—patrifamilias, qui profert de thesauro suo nova et  
vetera." Bibl. Sacr.<sup>1019</sup>

— "Quæ fuit durum pati meminisse est." SEN.<sup>1020</sup>

TO THE EARLY SETTLERS IN HAWKE'S BAY, (WHO HAVE ALSO EXPERIENCED BOTH PRIVATION AND TOIL INSEPARABLE ON THE FIRST SETTLEMENT IN A WILD AND UNCIVILIZED COUNTRY,)

—AND PARTICULARLY TO THOSE OF THEM WHOM I HAVE WITH PLEASURE PERSONALLY KNOWN,  
AND TO THEIR DESCENDANTS,—  
IS THIS LITTLE BOOK HEARTILY DEDICATED BY THEIR PIONEER IN THIS LAND,

W. COLENZO.

NAPIER, MAY 15TH,<sup>1021</sup> 1884.

DEDICATION.

As one who, walking in the twilight gloom,  
Hears round about him voices as it darkens,  
And seeing not the forms from which they come  
Pauses from time to time, and turns and hearkens;

So walking here in twilight, O my friends!  
I hear your voices, softened by the distance,  
And pause, and turn to listen, as each sends  
His words of friendship, comfort and assistance.

\* \* \*

Not chance of birth or place has made us friends,

1019 Like unto a man that is an householder, which bringeth forth out of his treasure things new and old. Matthew 13: 52.

1020 What was hard to suffer is pleasant to remember. Seneca (Hercules furens 656). Colenso's own translation.

1021 WC: The day—50 years ago!—that I left my native Home for New Zealand.—W.C.

Being oftentimes of different tongues and nations,  
But the endeavour for the self-same ends,  
With the same hopes, and fears, and aspirations.

Therefore I hope, as no unwelcome guest,  
At your warm fireside, when the lamps are lighted,  
To have my place reserved among the rest,  
Nor stand as one unsought and uninvited."

(*Longfellow.*) [iii]

## PREFACE.

It is probable that some who may read this little book may very properly wish to know, why these two Papers were not published in the annual Volume of the *Transactions of the New Zealand Institute* for 1879? seeing they were written purposely for and read to the Members of the Hawke's Bay branch of the Institute at their ordinary meetings in 1878. This question can be briefly and truly answered.

The two Papers were duly forwarded to Wellington to the Manager of the New Zealand Institute; who, some time after, informed the Hawke's Bay Society, that the Board would only publish an *abstract* of them. This, however, could not be agreed to by myself as well as by the Society; and the Manager was officially informed, that the Hawke's Bay members of the N.Z. Institute greatly wished to have them published in their entirety; and, that if it were a matter of money (the cost of printing the whole), the surplus expense would be readily met by them: this overture was also refused by the Board. And, after some further delay, the two Papers were obtained from Wellington.

In their original state they were not so long as they are now; most of the copious Notes, and a few of the poetical extracts have been added; at the same time nothing has been omitted. The Poetry has been mainly taken from my favourite modern poet, Longfellow, (whose bust has lately been placed in Poet's Corner,) in the hope of their beautiful and expressive thoughts and language striking a latent and sympathetic chord in the hearts of some of our young Colonists; and possibly inciting them to seek to know more of the beauty of Poetry, and in particular of that of our National British poets. And it is still further hoped, that the Notes (particularly those in the Appendix,) will be especially appreciated by the Settlers of Hawke's Bay.— In my longer journeys I always carried a few choice books with me, and among them a pocket edition of *one* of our Poets:—Ossian, Milton, Dryden, Pope, Thomson, Gray, Goldsmith, Burns, Wordsworth, Keats, Shelley, Byron, Walter Scott, Longfellow, Tennyson, &c.

In my originally writing these two Papers, and in preparing them for the Press, it has again been my aim, to stir up the younger folks among us to the [iv] study of Nature's works, with which we are profusely surrounded, and wherein is a rich mine of intellectual wealth! Of these studies it may be truly said in the impressive words of Cicero, (as I myself have proved and AM NOW DAILY PROVING.)—"Hæc studia adolescentiam alunt, senectutem oblectant." = These studies invigorate youth and solace old age.

"Ye who love the haunts of Nature,—  
Love the shadow of the forest,  
Love the wind among the branches.—

\* \* \*

Ye whose hearts are fresh and simple,  
Who have faith in God and Nature;  
Who believe, that in all ages  
Every human heart is human,—  
That in even savage bosoms  
There are longings, yearnings, strivings

For the good they comprehend not;  
That the feeble hands and helpless,  
Groping blindly in the darkness,  
Touch GOD's right hand in that darkness  
And are lifted up and strengthened;—  
Listen to this simple story."—

LONGFELLOW. [1]

## PAPER I.

### MEMORANDUM OF MY FIRST JOURNEY TO THE RUAHINE MOUNTAIN RANGE, AND OF THE FLORA OF THAT REGION.

[*Read before the Hawke's Bay Philosophical Institute, May 13th, 1878.*]

WITH ADDITIONAL AND COPIOUS NOTES.

—"One is useful to science, however, not only by work finished but also by work begun. I will therefore make a commencement, though I may advance but a few steps."

*Hist. Nat. Gen. des Règnes Organiques.* ISID. ST. HILAIRE.

"*Pleon hemisu pantos.*" = The half is more than the whole.

HESIOD.

BEING the only European who has crossed the Ruahine mountain range, and that several times, (and at an early date in the, history of the Colony of New Zealand,) I have been often asked to give some account of what I had seen there.

It was in the summer of 1843 that I first saw this part of New Zealand (Hawke's Bay). In that year the late Bishop of Waiapu (Dr. Williams) and myself—as Missionaries of the Church Missionary Society—left Poverty Bay in a small schooner for Port Nicholson (Wellington), intending to make the unknown and somewhat adventurous journey from that place overland and on foot back to Poverty Bay. (I having, also, only then recently arrived at Poverty Bay overland and on foot from Wharekahika (Hicks' Bay); where, in landing in stormy weather, the ship's boat was upset in the breakers, and I had to swim for life to the shore; and, shortly afterwards had the further consolation of seeing the vessel I had come in down the coast, that was at anchor outside, cut her cable, and sail away S. before the gale, leaving me behind!) But after a whole fortnight at sea, battling with the adverse winds and waves, and suffering no small hardship from want of water, to say nothing of peril, which on two [2] occasions was imminent, (ship in great distress, every sail torn to rags, passengers battened down, helm lashed, and ship given over!) we were glad to be landed on the shores—any where—and this was effected at Castle Point, then wholly unknown, entering the little cove with a narrow entrance of only a few yards directly under "the Castle"; and this we only just barely managed to do with extreme difficulty, after several hours severe pulling against the strong West wind blowing off the land in our very teeth! with only 3 oars, (one having early snapped in pulling,) and ten men, a large dog, and two big watercasks in the boat! At first, we had made the high perpendicular and weedy<sup>1022</sup> cliffs of the islet (at high tide) Kapuaarangi, which forms the N. head of the little cove, and there, under its lee, we breathed a while, and our captain was for trying to scale the smooth and slippery precipice—all hands! not knowing what it might turn out to be to the N. and S. of that

1022 WC: From sea-weeds with which they were densely covered.

cliff, himself and his men (that I say not all in the boat) being quite worn out; and afterwards, when we had landed on the sandy beach and the boat drawn up, the captain climbed to the top of "the Castle" to see after his ship, and lo! she was hull down! which caused him greatly to despair. It was, indeed, a time to be remembered. Landing, we named with gladness this snug little place, "Deliverance Cove"; being, as we supposed, the first Europeans who had trod its sandy shores. Then we anxiously sought about for water, which we had for some days greatly needed, and only found it by digging in the sand at the base of the cliffs, to which spot our attention was drawn by some small water-loving plants growing there;—little dreaming there was a small river a short distance further N. Our Captain having filled his two huge watercasks with water and sand, sailed away bravely before the wind into the main ocean in quest of his vanished ship! which he fortunately found. From that place, or rather from Mataikona,—a village where several Natives (nearly 100) were then residing, who received us very hospitably—though they had little to give us save pigs,—after a fortnight's sojourn among them,—we travelled on slowly to Ahuriri in Hawke's Bay, the present Napier. During our stay there we sadly needed several common necessities,—as potatoes, flour, tea, sugar, soap, and salt!<sup>1023</sup> [3]

Our large company of travelling Natives from Poverty Bay, (who, from food and water falling short,<sup>1024</sup> had nearly all been landed long before at Pamoteao,—a bluff near Cape Palliser,—in the night when the W. wind went down, and who had thence gone on to Wellington, expecting to find the ship there), arrived at the end of a fortnight with a few supplies. It was during that journey, and while in Hawke's Bay, that I first saw the Ruahine range, looking sublimely grand under its crest of virgin snow! This, alone, was to me a strange unusual sight; for although I had lived 10 years at the N. (Bay of Islands), and had also visited the E. Cape district, and had twice travelled from Hicks' Bay to Poverty Bay by the coast, and from Poverty Bay through the interior back to the Bay of Islands, I had never seen snow in N.

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1023 WC: I have particularly emphasised "salt";—this was for some time our greatest want; we could not relish our unsavoury pork for want of it, and were beginning to feel the need of it. At length we hit on the plan of boiling down sea-water; the natives of the place having a tolerably good-sized iron pot, which they lent us. At first, however, we were puzzled with the mixing of the two salts,—crystals of Sulphate of Magnesia (Epsom salts) and of Chloride of Soda (common salt),—which made our Salt terribly bitter; but this we ultimately got over by watching for the exact moment of crystallization, as the salt of Soda crystallized earlier than that of Magnesia, and so, by quickly removing the pot from the fire, and pouring away the bitter, we succeeded in getting a little tolerably edible salt, at which we rejoiced! but it required several boilings and evaporatings to obtain even a small quantity; partly, perhaps, owing to the freshness of the sea-water along shore. When we got our salt and added to it the green fruit of the N.Z. Pepper (*Piper excelsum*), we wonderfully improved our cooking of pork! For plates and cups we used the large shells of the Paaua (*Heliotis iris*), plugging the holes with bits of wood; while, for not a few of other little common things, we realized, that "Necessity was the mother of invention."

1024 WC: I may here also briefly mention how we came to be in want of water. During the first gale our large body of Maoris had to be battened down below in the hold (as we were also in the cabin), while confined there they were sadly in want of water, and finding the spare and full watercasks, pulled out the bangs to get at the water, and in the darkness and disorder lost and could not replace them,—and so the water all ran out! A scene followed when it was found out by the Captain.

Zealand before. It was then, too, that I first heard of the natives living secluded in the interior, beyond the snowy Ruahine mountain range, in the country lying between it and the famed central volcanic mountain Tongariro.<sup>1025</sup>

In the following year, 1844, I finally left the Bay of Islands, and came to Hawke's Bay to reside. During the summer I saw pretty nearly all the Maoris of the immediate neighbourhood, dwelling between Tangoio and Patangata, who were then numerous; and I also wished to see, or to know something more of, those dwelling in the inland Patea country, beyond the Ruahine mountain range, of whom I had formerly heard. Of them, however, I could learn but little, save that they were believed to be there, isolated completely from the outer world, and [4] that no way, or track was open, or known, by which they could be reached, except the long roundabout one by way of Taupo lake; which, it was further said, would be of itself 2–3 weeks journey. For a long time I could not hear of a guide, or of any one who really knew anything of the mountain passes, which, evidently had never been visited from this (the Eastern) side. At last I found a middle-aged maori named Mawhatu, who, when very young, had been taken away prisoner into the interior from Hawke's Bay by a fighting party, and who had subsequently escaped from slavery. Mawhatu had therefore gone twice (in going and returning) through the mountain forests; but, as several years had elapsed since, and the journey was difficult, for some time he was very unwilling to go. The resident natives, too, especially the principal chiefs, Te Hapuku, Tareha, Puahara, Te Moananui, and others, were greatly against my going thither, believing I should never return; representing the mountain passes as being frightful, where several maoris had from time to time been lost through attempting the journey; particularly a *tauau* (an armed party), which had left Taupo to invade Hawke's Bay, south, a few years ago, and were all lost to a man in the dreadful passes on the snowy summits, where their bones now lay bleaching! And, also, though many years before,—a famed ancestor of theirs, named Te Rangitaura, who, in peacefully travelling from Patea, to Hawke's Bay, (and yet not by the summits,) had also miserably perished with his people in a snow-storm.<sup>1026</sup> However, by dint of perseverance, I succeeded in getting Mawhatu, my quasi guide, and some other stout young natives to accompany me; and we were to start soon after the snow should be completely gone,—by which time I should also have finished building my chimney, a matter of very great importance to me. The snow was late that summer before it wholly disappeared; it was still there

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1025 WC: On that occasion Bishop Williams and myself travelled together to Te Wairoa (Clyde of the present day) when we separated; the Bishop going overland to his home at Poverty Bay, and I going to mine in the far North, by a long inland circuitous and unknown route; first to Waikare Moana, Ruatuna, and Te Whaiiti; thence, returning again to the E. Coast, to Whakataane, Maketu and Tauranga; and thence again inland by a zig-zag route from coast to coast,—to Waikato (down the river to its mouth) and by beach to Manukau, thence to Kaipara, Waipu and Whangarei,—on to the Bay of Islands and Te Waimate. A copy of my dotted track on this occasion, which I had taken by compass and mapped, with the names and positions of places and rivers (till then unknown), was sent by Bishop Selwyn to London, and was subsequently engraved and published by Arrowsmith in the maps of New Zealand.

1026 WC: For a further notice of this event, and of this ancient chief, see "Transactions N.Z. Institute", vol. XI. p. 86.

glistening white in the mornings' sunbeams up to the middle of January, 1845.

And here I would make a short digression, which may not prove uninteresting to Hawke's Bay settlers in general, however improbable such may seem to not a few of the later ones among them. I have mentioned the trackless mountain forests of the Ruahine range; but, if anything different, some of the open swampy plains near the sea in Hawke's Bay were worse,—all but impassable. I may particularly notice, in passing, the present well-known extensive grassy level plain lying between Farndon, or the sea, and Pakowhai, a long peninsula bounded by water on three sides. Words would fail me to shew the original state of that land! At this time I resided at Waitangi, a place near to what is now called Farndon,—the two large Fir trees (*Pinus pinaster*) and also the row of "Cabbage trees" (*Cordyline australis*), raised from seed and planted there by me, mark the spot. The principal native villages near me, were at Waipureku [5] (East Clive), and Taanenuiarangi, Whakatu, and Pakowhai, on the banks of the river Ngaruroro; this last village though greatly reduced and altered still remains. In those days there was no communication overland between those villages and Waitangi, and Te Awapuni, (the large maori pa, or village, near by, on the W. bank of the Waitangi creek where Karaitiana and his sub-tribe long resided,) simply because it was almost impossible to travel through the dense interlaced old jungle of "Cutting-Grass," (*Arundo conspicua*.) and other swamp-loving plants, as the N.Z. Flax (*Phormium*) and several large *Carices*, which grew there. The maoris came generally in small parties, almost every day, (indeed, too often!) from those villages to the Station; everything being new and strange to them, and having nothing to do; but they invariably came and returned in their small canoes, taking advantage of the tide to paddle up and down the river. I have travelled a good deal in New Zealand, but I never knew of a worse piece of low country to get through; neither have I seen anywhere else "Cutting-Grass" of so large a size, and growing so closely together, and forming such a dense mass, so that a man, a cow, or a horse, could not be observed even in looking down from a height (as the top of a house or a long ladder, or a chimney), when among the immense tussocks. Hence, too, it was, that I lost some of my first few cattle, before the place got cleared.<sup>1027</sup> The whole of the low delta, or tongue of land, lying between the two rivers, Ngaruroro and Waitangi, was rigidly tabooed (*tapu*) by the Maori owners, as a wild pig, and swamp hen (*Porphyrio melanotus*), and eel preserve; hence it had never been cleared or burnt off, and the sun did not shine upon the soil, which was just as wet at midsummer as in winter, with water and slippery mud in the narrow deep pig channels or ruts, and pools among the tussocks. I well recollect on two occasions, when out visiting sick natives at Pakowhai, having also domestic natives from the neighborhood with me, and having lost the tide were returning overland rather late in the day, we were actually obliged, after much fruitless effort and sorely against our wills, (being utterly unprovided with any thing,) to remain out in the swamp all night!—with wet feet, hungry, no fire, and sadly cut hands,—through not being able to find our way through the impervious jungle. I have often of late years asked myself, when contemplating from the hill (Scinde Island) the rising township of Napier, and the inland level grassy plains with their many houses, gardens and improvements, and the fast growing town of

Hastings,—which of the two wonderful alterations, or changes,—the building of the town of Napier, or the great transformation in those swamps,—I considered the most surprising, and I have always given it in favour of the plains.—And this great change was brought about much earlier than I could reasonably have anticipated, through several causes operating together, viz.—my own few cattle,—the introduction of [6] grass and clover seeds, and, also, of wheat for the natives,—and through the natives around generally embracing Christianity; the chiefs taking off the *tapu* from the land, and so burning off the jungle,—their catching their numerous wild pigs which infested it, and their cutting and scraping the flax, for sale to the shipping and traders,—who soon after my residence came to Ahuriri to trade.<sup>1028</sup>

But to return:—Having made ready all my little preparations, and got my travelling party of six baggage-bearers together on Monday, the 3rd February, the next morning at 8 we started from Waitangi,—and after a long and wearisome journey by Okokoro (near the present Pakipaki) and the Taheke (on the E. side of Poukawa lake<sup>1029</sup>) we gained the islet in the lake Rotoatara by 8 p.m., all hands being pretty well knocked up; the whole country being so rough and wet, and the slippery maori foot-track through the dense scrub so very narrow! (from their tuning-in their feet, and, being without shoes, never deviating from it,) that it often caused me to slip, and to stumble right and left.

I noticed but few interesting plants this day; among them, however, was a *Veronica* with blue flowers, which grew in the water and was not unlike our English *Veronica Beccabunga*, or *V. Anagallis*; (I mention this particularly, as I fear, it has of late years quite disappeared from this district, not having seen a plant any where for more than 20 years;)—a couple of *Carices* which were new to me (*C. C. ternaria*, and *breviculmis*);—the scarce fern *Nephrodium thelypteris*, var. *squamulosum*, which I had hitherto only observed in two places in N. Zealand, viz. near Paihia in the Bay of Islands, and in a bog near Mount Edgecombe in the Bay of Plenty; (this also has long disappeared;) the fragrant [7] little New Zealand Mint (*Mentha Cunninghamii*), named by Bentham after its discoverer my dear Botanical friend Allan Cunningham,—this sweet little plant grew profusely

1028 WC: The question may reasonably arise,—Why did I make such a bad selection for a residence, seeing that at that early period I had the whole land open before me?—But there was no choice in it! And it was only after some days spent in talking over it, with the five principal chiefs of the S. side of Hawke's Bay and their relatives, that we (Bishop Williams and myself) got that small piece of land (10 acres) assigned at all. And it was gravely and perhaps (as things then were amongst them) judiciously decided, that I could only have a piece allotted me there; such being a tabooed spot (as I have already stated), and so belonging to them all, and therefore in residing there I should be equally open to them all; for if I had been located on a better site near to one of their pas, then I should be considered as belonging to that sub-tribe resident therein, and so not free to all,—especially in their often jealous squabbling among themselves; and as to my residing any where inland—away from one of their pas—such was not to be thought of, and could not be allowed. At the same time, my business was to be as much as possible among the bulk of the people.

1029 WC: In those days the only narrow maori track inland lay on that side of the lake. No maori then lived at Te Aute, which was all a dense extensive forest; neither was there any road or track that way, from Te Aute (where Te Hapuku's pa and marble bust is) to Kaikoura and Waipawa.

on a grassy hillock at Te Taheke, I had not before seen it so far S.; but this year (1884) it was again detected by me in the 70-mile Bush, between Norsewood and Danneverke; and, in the same neighbourhood, in damp spots, *Mazus pumilio*, (or a smaller closely allied species,) and *Minulus repens*, both rare plants; indeed this sub-order of *Antirrhinidae* is but poorly represented in N. Zealand;—and, also, a small peculiar plant, a new species of *Nertera* (*N. setulosa*), which I obtained at Okororo, and which is very rare; I never found it save in that one spot until last year (1883) when I again met with it at Whakaruatapu between Matamau and Danneverke.

After a restless night, the next morning I found myself too unwell to rise early, but as I wished to get over the range before Sunday (so as to spend that day quietly somewhere at Patea), we started afresh at 11 o'clock, and travelling slowly on in a Westerly direction halted at sunset on the banks of the river Mangaonuku, in Te Ruataniwha plain.

Thursday morning was ushered in by heavy rain! which, to my great regret, continued to pour throughout the whole day.—My situation here was very uncomfortable, for my old tattered summer tent (as we were not near any forest and not carrying poles) had been but slightly pitched, supposing when we halted that we were only here for a few hours, and intending to leave early in the morning,—but there was nothing better. To add to one's misery was the oft-repeated statements of my natives,—that the rivers would be flooded and so prove impassable after this downpour!—they were already getting disheartened.

A night of heavy rain was followed by a dirty-looking lowering morning, but as we hoped the rain was over we started at 9 a.m., making directly across the great plain, through the long dripping grass, every now and then stumbling across some wild pigs, which here were both numerous and large, and in some instances were quite prepared to stand and shew fight! which they invariably did whenever we came suddenly upon them without their seeing us, or we, indeed, them. On reaching the river Waipaoa,—which we did not far from the present village of Tikokino,—(there were no natives residing in those parts then,) we travelled up its stony bed, wading across it with difficulty several times, as it was nearly three feet deep and rapid withal. At 3 p.m. we reached the junction of this river with the river Maakaroro, and proceeded up the stony bed of the latter until 6 p.m., when, it being nearly dark where we were, we halted for the night in the bed of the river.—

I was gratified in finding several new and interesting plants on the banks of this river. Here the drooping *Carmichaelia odorata* (which I had first detected in 1843, inland from Te Wairoa,) grew plentifully on the immediate banks of [8] the stream, filling the air with its fragrance;—here, also, especially on low banks subject to winter floods, was the pretty *Euphrasia cuneata*, nestling in graceful little clumps among the larger shrubs and trees; this plant presents a really elegant appearance in its native homes, but I fear it will prove impatient of culture in the open garden; I often tried it and failed;—on the shaded cliffy sides of the river two or three species of the peculiar Orchideous genus *Corysanthes* (*C. C. triloba, rivularis, and macrantha*,) were more plentiful than I had ever seen them, and of large size, shewing that this was their true habitat; provokingly, however, they were mostly found in the cliffs over deep water, in the angles and bendings of the stream, where they were snugly ensconced in their mossy beds, and could not readily be got at;—while here and there among the cliffs,

wherever a rill of water was found trickling down its stony and mossy bed, the elegant white *Oxalis* (fitly named by Allan Cunningham its discoverer, *catarractæ*,<sup>1030</sup>) was to be found;—

“Where flows the fountain silently  
It blooms a lovely flower;  
White as the purest virgin snow,  
It speaks like kind fidelity,  
Through fortune's sun and shower.”—

this plant, said to be the same as a species found at Cape Horn, is now the *O. Magellanica* of Dr. Hooker's Hand Book. Although Sir W. Hooker, who knew the Cape Horn Plant, had published this species as a new one and under A. Cunningham's name of *O. catarractæ* in his *Icones Plantarum*, vol. V. pl. 418, (in 1842,) giving also a highly characteristic drawing of it. I also detected this graceful plant growing very near the summit of the range, among the snow in full bloom. The whole of the N.Z. species of the genus *Oxalis* need revision: I believe that several valid species will be found. A. Cunningham, in 1839, (who knew only the Northern plants,) made 9 species; those I also subsequently found, and I am pretty certain of having discovered two additional ones since here at the S. Dr. Hooker, however, gives only two species as belonging to N.Z., although he allows of several varieties. Further on, in the thickets on the river's banks, I noticed that pretty and neat species of Myrtle, *Myrtus pedunculata*, bearing a profusion of small edible fruit, its hard stony seeds however, are a great drawback to its use; growing with it was the very handsome Southern species (or variety, according to Dr. Hooker,) of *Hoheria*, (*H. populnea*, var. *lanceolata*,) which when fully in blossom is a most lovely flowering tree; here, also, it was that I discovered another species of *Carmichaelia* (*C. flagelliformis*), a tall shrub of peculiar growth, with long pendent thong-like branches, bearing only few flowers. Very fine specimens of the large leaved *Fagus* (*F. fusca*, var., = “Black Birch” of the colonists,) were also here, [9] common on both sides of the stream; and the neat little species of *Arthropodium* (*A. candidum*), which I had first detected at Tolaga Bay in 1838, was not unfrequent in rocky spots on the river's sides; but wholly unlike its allied species, *A. cirratum*, in never being found growing in tussocks or clumps.

Early the next morning we resumed our journey, as before keeping in the bed of the river, and every now and then wading its cold stream from side to side, so as to escape the prostrate trees, and drift wood, and boulders, and to have a little easier walking. Several times, both yesterday and today, we were so dissatisfied with our course, from being continually wet and very cold from the icy water, and without the rays of the sun in the deep narrow bed of the river,—and also from the little progress we were making in spite of all our continued efforts,—that we tried to force our way through the thickets and “Bush” growing on the river's banks, but found that we could not get on that way, so had to take to the cold river again. At 3 p.m. we arrived at what appeared to be the immediate base of the upper mountain which rose steep before us; here two rivers met, each nearly of the same size, and coming from opposite directions; we tried both for a short distance but found their beds so narrow and steep, and partly choked with dead trees and shrubs, and masses of stone, that we gave up all thoughts of going any

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1030 WC: We had gathered it together at the Kerikeri waterfall in the Bay of Islands in 1838.

further in that way, and so prepared with a good heart to climb the face of the narrow tongue of land which lay between the two streams. It was easy to see, here, that our guide Mawhatu was at a loss; evidently he had been in the main river below before, but where to turn off from, or to leave, it, he knew not. About an hour before we had arrived at the fork, we had on a sudden a fine clear view of the summit towering high above us, yet, apparently, not very distant; it seemed a round-topped hill, and is called, by the old Maoris, Te Atua-o-mahuru.<sup>1031</sup> This had been often pointed out to me when at Waitangi (it being one of the conspicuous peaks of the range,) as the head over which our course lay; it had now, however, a slight coating of snow on it, no doubt from the late rains. There it stood alone, uprearing its proud crest in solemn grandeur!—

—“Soaring snow-clad through its native sky,  
In the wild pomp of mountain majesty.”

But the sight of that snow there on the ridge before us did not increase our comfortable feelings and thoughts.

As we were now leaving the river and entering into the dense mountain forest, I travelled with my pocket compass in my hand, having taken bearings occasionally during the day in the river, where also, we had, at times, seen for a few moments the sun peering down through the trees. It was of no use now (as it then seemed to us in our happy ignorance) to think of drawing-back, although [10] had we known clearly what was before us we should certainly have done so,—therefore we persevered and kept on steadily in as straight a course as we could until 6 p.m., when, it being nearly dark, we halted in the forest, not knowing where we were; but believing we had not much further to go to gain the wished-for summit. I immediately sent two of my companions to seek for water, which we had greatly needed for the last three hours, and fortunately they found some in a declivity in the side of the spur not very far off. This spring, I afterwards learned, is called Te Wai-o-kongenge—fit name!—<sup>1032</sup>

Our journey this day was a very fatiguing and disagreeable one all the way we had come, for it lay in the river's bed, either in the water or along its stony and rocky banks, which gradually contracted. In some places the sides of the river were perpendicular, and in others impending, and from 100 to 250 feet high, with fine forests of *Fagus* on the top; the trees of which were continually falling down along with the earth into the river beneath. Here and there an immense mass of earth had slipped quietly down the upright cliffs bringing the large trees with it, standing as they originally grew; these had been arrested in their descent when about half-way down, and there they stood in the side of the cliff fair and flourishing; in two or three spots during the day I noticed a double slip or subsidence. of this nature, in which there were two tiers of living trees so standing in the side of the cliff; adding not a little of a novel and picturesque nature to the scene. I had fully intended in passing-on to take on my return a sketch of this unique landscape, but (as it will be seen) pressing circumstances prevented me.

I had carefully examined the earth and stones throughout the whole journey up this river on both sides, and also for some short distance up the two smaller ones at the fork, but I found no indications of anything save the common rocks;

the limestone formation of Hawke's Bay had long disappeared; the cliffs being composed of a yellowish argillaceous clay with red veins, reminding me of those of the Bay of Islands and of Pencarrow Head in Cook's Straits. In one place only in the Eastern bank did I discover a few traces of fossils, not however in limestone (as is so common in Hawke's Bay) but in a kind of dark indurated clay, resembling the clay formation of the East Cape; but though the matrix was not very hard, I could not get a single specimen perfect or nearly so; and as I knew I should return by the same course, I left them for my return journey down the river.

I noticed several pretty spots during the day: some under the fine large spreading Beeches (*Fagus fusca* = “Black Birch”), having the ground beneath dry and carpetted with their own deciduous leaves, and with a sheltering mossy bank and nook at hand, strongly reminded me of Milton's wish:— [11]

—“When the sun begins to fling  
His flaring beams, me, goddess, bring  
To arched walks of twilight groves,  
And shadows brown, that Sylvan loves,  
\* \* \*

There in close covert by some brook,  
Where no profaner eye may look.—

And may at last my weary age  
Find out the peaceful hermitage,  
The hairy gown and mossy cell,  
Where I may sit and rightly spell  
Of every star that heaven doth show,  
And every herb that sips the dew.”—

Other spots, where we briefly rested,—at the foot of a handsome tall Beech tree by the side of the brawling stream,—brought Gray's stanza fresh to mind:—

—“There at the foot of yonder nodding Beech,  
That wreathes its old fantastic roots so high,  
His listless length at noon tide would he stretch,  
And pore upon the brook that bubbles by.”

We passed several fine symmetrical Beeches of this species on the banks of this river both yesterday and to-day, some were of a very large size having straight clean trunks, while their foliage, etc., looked charming. The poet's truthful description of the Beech of the N. hemisphere has often appeared to me, on many occasions when travelling through the Beech woods inland, to be just as applicable here; for instance, when he says:—

—“bursts are seen  
Of beauty on the beech tree; a rich shade  
Of crimson teeming life; buds sanguine hued,  
As though the sunset clouds had o'er them play'd  
Until they left their dye upon the cone  
Tipping each slender branch with beauty all their own.”

In Botany this day in the bed of the river I did but little: near the cliff at the fork I noticed a fine plant of *Dianella intermedia* with its lovely turquoise blue berries; the first I had seen since I left the Bay of Islands, where, in fern lands, it is not unfrequent; I welcomed it as an old acquaintance! A *Loranthus*, too, I detected parasitical in a tree in the side of the stream, which was new to me, of this I took a specimen, intending to take more on my return; this species is, I think, *L. tenuiflorus* of Dr. Hooker. On first climbing the steep ascent and entering into the forest I was surprised to find the sweet-smelling epiphytical Orchideous plant *Earina mucronata* growing very profusely on the damp fallen crags, where it had also assumed a short grassy appearance. Subsequently, at Cape Turakirae, (the S. Cape of Palliser

1031 WC: See Note B, appendix.

1032 WC: That is, The spring, or water of weariness,—or, of being quite worn out!

Bay,) I again detected this Orchideous plant in similar situations in stony hollows among crags; and growing with it a closely allied genus, *Dendrobium*, (perhaps *D. Cunninghamii*, but with [12] undeveloped flowers and apparently distinct,) both wearing the same low stunted cæspitose grassy appearance, but very healthy.<sup>1033</sup> At first I thought it must be a new species, as I had never before found it off a tree, where it usually grows long. With it, also, grew plentifully, a species of *Astelia* bearing short leaves, which I considered new, and from its prominent markings I named it *A. trinervia*. This species is possibly included in *A. nervosa*, of Dr. Hooker, from which species, however, I think it will be found distinct. This peculiar and eminently N.Z. genus, greatly needs careful revision. Here, too, pendent from its tree, in which it grew parasitically, hung a most lovely species of *Loranthus* (*L. flavidus*),— the elegant leaves of this plant are of a glaucous light-green colour with a dark margin, and greatly add to its unique beauty in its living state. I never found this species in any other locality; but, subsequently, (whenever I passed this way, which I did several times in the following years,) I took specimens repeatedly from this one plant; I was much pleased with this discovery. Ascending in those forests I found a new herbaceous *Senecio* (*S. lagopus*), with fine large yellow flowers and peculiar simple cordate leaves, growing plentifully. We soon left the large serrated leaved *Fagus* with its rough elm-like bark behind, and got among another species, *F. Solandri*, having small entire leaves and smooth bark; this is the common tree of those forests, its trunk is literally covered with elegant *Hepaticæ* and beautiful foliaceous and coralloid and other *Lichens*, of several genera and of many colours, and all charmingly healthy,— prominent among them are the genera *Sticta*, *Parmelia*, and *Sphaerophoron*, with many smaller kinds. Linnæus has truly said,—“*Natura maxime miranda in minimis.*”<sup>1034</sup>—

“Some are reddish, some brown, some grey, and some black,  
And they are puckered, edged, button'd, or fringed, front and back:

Some are lying like leather close under your feet,  
Some waving from trees in the forest you'll meet.”

—MISS TWAMLEY.

Lichens are perennial; they also grow very slowly and attain to an extreme age. It has been stated by eminent Lichenologists, that some species growing on the primitive rocks of the highest mountain ranges in the World, are estimated to have attained an age of at least 1000 years; and one author mentions, “after the lapse of nearly half a century, having observed the same specimen of *Sticta pulmonaria* on the same spot of the same tree.” I myself have noticed in the mountain woods some that I had early marked, as having increased but very little in size during many years. This Order of plants, humble and minute though it appears to be,—[13]

“Holds a rank

Important in the plan of Him who framed  
This scale of beings; holds a rank which, lost,  
Would break the chain and leave behind a gap  
Which Nature's self would rue.”—

1033 WC: Of these two Orchids I have recently (1882) made two new species, *Earina quadrilobata* and *Dendrobium Lessonii*, having last year re-discovered them growing pretty profusely and in flower in a few spots in the “70-mile Bush.” (Vide Trans. N.Z. Inst., vol. XV., pp. 325-328, for full description.)

1034 Nature is greatest in little things.

On many of these trees grew parasitically another fine *Loranthus* (*L. tetrapetalus*) in dense bushes bearing crimson flowers in profusion, so that, in some more open spots among the closely-growing trees the whole forest wore a reddish glare, especially when such was so situated on a western slope as to become heightened by the beams of the setting sun. I have noticed this on several occasions in passing through those woods; and, also, that at, or near, sunset, all flowers or leaves of a red colour, throw out, as it were, a profuse kind of red glow at that particular hour: this I have also often observed here in our Napier gardens. Another peculiarity pertaining to this species of *Loranthus* was its generally being found at a pretty uniform height from the ground, some 15–20 feet, seldom lower or higher. At the spot where we halted I discovered a fine bushy Compositaceous shrub of stout diffuse growth, having peculiar dark-green leaves, thick broad and serrated, reminding me at first sight, of those of the *Hydrangea*; this plant has been named by Dr. Hooker *Olearia Colensoi*.

It was now Saturday night, and, our slender supper and prayers over, we sat for a while in the deepening gloom of the forest to talk, or, rather, to ruminate moodily over our position.

“Within the solemn wood,  
Solemn and silent everywhere!  
Nature with folded hands seemed there,  
Kneeling at her evening prayer!”

Our supply of food was running short, and there was nothing eatable in those forests. We, however, supposed and hoped we had not much farther to go ere we should reach the summit; and then to descend to the native villages on the western side, of which we had heard and where we looked for food and welcome, would not take us long. One of my party<sup>1035</sup> was distantly related through his mother with the Patea tribe, although he had not seen any of them for many years, if at all! And so, after some talk, we arranged, that he (Paora) and my quasi guide, Mawhatu, should rise at break of day and start away without any load over the mountain tops for Patea; and, if possible, get some of those natives residing there to come to see us, bringing a supply of provisions with them. We [14] had also feared that the mountain passes if still under snow would prove impassable to my baggage-bearers.

Without doubt we all slept soundly that night, being helped thereto by the constant serenading of the Weka (*Ocydromus australis*) and the Owl (*Athene Novæ Zealandiæ*)! No other sound was heard, for there was no wind, not even the plaintive sough of the night-airs; and I could not help thinking, with Cowper, that

“Sounds inharmonious in themselves and harsh,  
Yet heard in scenes where peace for ever reigns  
And only there, please highly for their sake.”

And also, at intervals, that,—“Silence in its depth speaks.”

We, who were to remain there, did not wake and get up till 10, a.m., and when we did we found ourselves completely

1035 WC: The present well-known old chief, the head of his sub-tribe, Paora (= Paul) Kaiwhata; who was then a fine strong young native, and one of my baggage-bearers on that memorable occasion, and not unfrequently carried me on his back through the deeper waters of the river. He, also, accompanied me in a similar capacity on several journeys to Patea, Palliser Bay, and elsewhere, in after years, and did good and voluntary service to the Church Mission.

invaded! A large blue-bottle fly inhabits that zone of forest in countless numbers, and is most audacious and teasing. Our blankets and woollen clothing had been attacked and were literally filled with its eggs; the hair of the natives' heads had also similarly suffered. We were not long in doing all we could to save ourselves, our provisions, and our clothing from this new foe, which I, in all my travelling, had not before met with. Had it not been for these blue-bottles we should have passed a most tranquil day of rest! everything there was so delightfully cool and still, fit emblem of the Sabbath; barring the plague of the flies, it literally was a

—"calm and secure retreat  
Of sacred silence, rest's eternal seat!"

We left the tent, &c., and retreated some distance into the dry woods, and there sat on the soft thick moss, where we held Divine Service,—in all likelihood the first Christian service on that mountain. Here "a dim religious light" was shed around; and though the scene might be deficient in some of those associations which are wont to add solemnity to the hallowed fane;—yet "He who dwelleth not in temples made with hands," is in very deed present within the solitude:— *so I have often felt.*

"The groves were GOD's first temples. Ere man learned  
To hew the shaft and lay the architrave,  
And spread the roof above them; ere he framed  
The lofty vaults to gather, and roll back  
The sound of anthems,—in the darkling wood,  
Amidst the cool and silence he knelt down,  
And offered to the Mightiest solemn thanks  
And supplication. For his simple heart  
Might not resist the sacred influences,  
That, from the stilly twilight of the place,  
And from the grey old trunks that high in heaven  
Mingled their mossy boughs, and from the sound  
Of the invisible breath that swayed at once [15]  
All their green tops, stole over him, and bowed  
His spirit with the thought of boundless power  
And inaccessible Majesty. Ah, why  
Should we, in the world's riper years, neglect  
GOD's ancient sanctuaries, and adore  
Only among the crowd and under roofs,  
That our frail hands have raised!

——— Be it ours to meditate  
In these calm shades Thy milder majesty,  
And to the beautiful order of Thy works,  
Learn to conform our lives."—

We spent the day quietly, sometimes reading together (in the N.T. our only vernacular book), sometimes thinking on and talking of our two absent companions; no one caring to move about. The water too, of our little spring, taken a little higher up, was delightfully cool and good tasted,—indeed delicious. My poor companions, however, had suffered much from their long walk with naked feet over those horrid stones and so much wading! and having but little to eat, and tobacco not yet being in fashion among them, they preferred sleeping to talking; so I was left in great measure to my own resources.

"To sit on rocks, to muse o'er flood and fell,  
To slowly trace the forest's shady scene,  
Where things that own not man's dominion dwell,  
And mortal foot hath ne'er or rarely been;  
To climb the trackless mountain all unseen,  
With the wild flock that never needs a fold;  
Alone o'er steeps and foaming falls to lean;  
This is not solitude; 'tis but to hold  
Converse with Nature's charms, and view her stores unroll'd."

Towards evening my friends were all on the *qui vive*, expecting every moment to hear the absent ones returning; but, after many false alarms, and no small display of superstitious fears on their part, dark night again enshrouded us, and they went to sleep,—leaving me once more to my meditations.—

"There is a quiet spirit in these woods,  
That dwells where'er the gentle land wind blows.

——— And here, amid  
The silent majesty of these deep woods  
Its presence shall uplift thy thoughts from earth,  
As to the sunshine and the pure, bright air  
Their tops the green trees lift."

The next morning we were awake and up very early,—to escape our foes, which commenced their persecution with the sun, and to receive our absent friends, and, it might be, visitors; for no Maori likes to be taken unawares.

Our scanty meal and prayers ended, we agreed to go on towards the summit, thinking it was near, and hoping soon to meet those whom we were so anxiously expecting. Leaving our tent and all baggage there, and taking our axe with [16] us, (my natives each only wearing a shirt,) we started. Hour after hour, how ever, passed in arduous toll before we gained the top; the primeval forest being so filled with decaying trees and prostrate limbs and tangled shrubs and herbage, that we could scarcely get through it. We had some difficulty also in finding and keeping in the track of our two companions who had preceded us; this, in an untrodden forest is curious, and deserves mention;—the guide, or foremost one, (if he is right in his course,) every now and then half breaks through the top or conspicuous side branch of a shrub or small tree, and allows it to hang down; this operation, called *pawhatiwhati*,<sup>1036</sup> is of great use to those behind, and to strangers and stragglers, who, of course, look out for it, taking care not to do the same. And these marked trees so remain and are of service for several years, as I have often proved. Care, however, must be taken not to confound those broken or bent purposely by man, with those broken accidentally by big falling branches of the higher trees, or bent down by the weight of the snow in the winter. Certain thick stemmed and tough shrubs, in particular those having large leaves, are well fitted for the purpose, and are always selected, if at hand;—as various species of *Panax*, and of *Coprosma*;—for the half broken and reverted branch dries gradually and so retains its leaves on it, which, after a little experience, is easily caught by the sharp eye of the Maori. At times (in after years) when puzzled as to our course in the forests, I have both known of, and joined in, a consultation over the broken branch of a shrub;—whether it was done purposely by man, or accidentally through natural causes; and times have been with me and my party when even life depended on it! In the event of branches wrongly broken, and so having to retrace one's steps and alter one's course,—first, the hanging branches are plucked away, and, secondly, a handful of tops of leafy branches, or big ferns is placed on the moss athwart that erring path or opening, which serves to warn those who come after; this also remains intact for years.

There is yet another means of forming and finding a track through those mountain forests, particularly of those high up where *Fagus Solandri* is the common or only tree. For in those sub-alpine woods the trees sometimes grow widely apart, and there the ground is densely carpeted with an

<sup>1036</sup> WC: That is, Touch and break gently.

erect closely-growing perennial moss, resembling in texture a Turkey carpet. Some of those untrodden undisturbed spots have appeared to me so enchantingly beautiful, especially when extra adorned with the lovely compact

*Hymenophyllum* ferns, that I have thought it a desecration to tread on or to disturb them. This moss if trodden on by a travelling party never afterwards rises to its former pristine state; not that it dies, or that the eye of man can detect the difference,—the difference is detected only by the *touch*, by the practised *foot* of the woodsman. [17] I was some years in learning before I succeeded in mastering it, but I eventually did so; but then I wore boots. Here, in this case, the only enemy is the wild pig; but, fortunately, he does not generally keep so high up on the mountains. [Vide vol. I. "Transactions N.Z. Institute", 1st Edition, Essay "On the Maori Races," by the writer, p. 6:—and, 2nd Edition, p. 342.]

In our ascent we passed over two of the worst of the "passes," and they were bad indeed! frightfully so. One in particular, as if an avalanche of half the mountain's side had suddenly slipped down into the distant gulph below, leaving a ragged razor-back edge of loose loamy sandy soil at a very acute angle. On this, which extended for 300 yards, connecting two peaks, nothing grew, as the sand and earth was continually rolling down. The old Hawke's Bay natives had informed me, that the bones of a *tauua* (a fighting party) composed of some 12–20 men lay bleaching at the bottom; the *tauua* having attempted the pass when snow lay on it, through which they were carried off their legs down to the bottom and miserably perished! Some of my companions, whose hearts beat high on arriving at the famed spot where the deadly enemies of their tribe had been lost, declared, on gazing down, that they could see some of their white bones below jutting up! which tale they told with great relish and with many embellishments on their return. The stream which ran bounding through the narrow valley beneath was so far distant, that, though we could see its waters sparkling in the sun, we could not hear it. This pass was never attempted in the winter season, nor yet immediately after heavy rains or the melting of the snow, nor in windy weather.<sup>1037</sup> Here, on the open western summits, we lingered until 3 p.m., (the natives with me not knowing what course to take, and all fearing to go astray,—for, after

1037 WC: In after years I crossed and recrossed this pass several times, the last time being in May, 1852,—and always, by taking care and only travelling in the summer season, without loss or great danger. On two occasions, however, we met with little adventures, which may be here mentioned as illustrations of the place. One happened in returning late that season from Patea; we had seen from where we were at Maketu (a village of Patea), that snow had fallen on the range, (which fell as rain where we then were,) and so we had to wait a few days until it was melted; this taking place we started. On the pass, however, I, in boots, slipped down a yard or two, but holding my ground through my long and tough maori spear, which I invariably carried, was helped out.—The second also happened in returning to Hawke's Bay on another occasion,—when one of my maoris, who had often gone with me, seeing the pass looking so clear and firm and tempting, with the sun, too, shining on it, took a run down the high slope from the W. side leading to it, and keeping too much down was carried off his legs by the treacherous wet and slippery debris! for a moment we feared for him, but I called out to him to stop, if possible, and make no exertion, when, by joining hands and ropes and with my tent poles, we got him safely up on surer ground. He had a good fright, however, which was also salutary to him, and to all—for the future. I had ample proof of the deceptiveness and danger of the place; which fully bore out all the old maori relations of it.

gaining the high table-land to the W. of the pass, we found [18] it open, flat, and intersected with shallow snow-runs, and low bushes, and boulders so that one might easily have proceeded in almost any direction,) and though we kept up a good constant look-out,—the maoris with their keen eyes, and I with my telescope,—we failed to discover any signs of natives approaching, or of any human habitation or cultivation, or fire or smoke, in all that enormous tract of open country of several score miles in extent, that lay like a desolate wilderness panorama before us!

"Far in the distance dark and blue,  
Each hill's huge outline you might view;  
Clothed with brown fern, but lonely bare,  
Nor man, nor beast, nor house was there.  
Yet even this nakedness has power  
And aids the feeling of the hour:  
There's nothing left to fancy's guess  
You see that all is loneliness:  
And silence aids,—voice sounds too rude  
So stilly is the solitude."<sup>1038</sup>

We had, however, no doubt as to our two absent companions having passed on; here were their footsteps, plain enough on the pass; one, evidently, having had a rather ugly slide downwards, before that he recovered himself. We, being thus doubly warned, kept nearer to the ridge; but the earth was much firmer to-day at noon, than it was to them on yesterday morning. Being warned, however, by the declining sun, we, unwillingly and with heavy hearts, and hungry and thirsty to boot, returned to our cheerless encampment, regaining it in silence by 6 p.m. Soon after, however, we heard voices! and our two absent companions bounded into our midst. We welcomed them heartily, but they sat down and burst into tears, crying bitterly yet quietly, in which we all more or less joined, as we knew the action was symbolic of bad tidings; and it was some time before the two newly-arrived ones could speak, they were so dreadfully exhausted. Having drank a little water and recovered themselves, they soon told their sad tale. They had had nothing to eat since they had left us, save a few small cabbage-tree tops, they had found yesterday growing among the fern lands lower down the mountain, which they had broken off and eaten raw.<sup>1039</sup> They had travelled all day yesterday from early dawn till dark, when they lay down wearied among the fern, without even the common solace of the pipe; arising again this morning by daylight to renew their tramp. In the whole of the country through which they had travelled (and they must have travelled many miles), they could not find a living being,—neither man nor beast. They had, indeed, gained an outlying eastern village of Patea, called Te Awarua, situate on the upper Rangitikei river, but it was without inhabitant, and without cultivations or stored 19] food; the natives, evidently, had gone away some time before, they knew not whither. Paora wrote on a piece of bark with a bit of charcoal to let them know of us, and of his visit,—if, perchance, any one among them could read writing. They would not have returned, however, had it not been for me, left with their companions in the forest. Poor fellows! it was painful to look at them; they were sadly worn and torn, both in body and in mind, and in clothing, too, with their long journey over such a desolate and rugged country, and with their great exertions, and want of food.

1038 WC: From Scott's "Marmion", Introduction to Canto II., altered to suit the scene.

1039 WC: Or rather the small blanched bases of the leaves, which affords a scanty nutriment.

We soon got them a small supply out of our little rapidly lessening store; and, after they were refreshed, we considered our situation, and determined *una voce*, that as we had but little food left (a mere handful of rice), and the nearest village was at Te Rotoatara Lake, we would retrace our steps without delay, and hasten thither early to-morrow.—I have told the story of our troubles, I will also give that of our joys,—or, rather, (speaking correctly,) of *mine*,—for I was quite sure that my companions shared it not with me,—quite the contrary;—so I had it all to myself.

On quitting our encampment this morning and ascending through the forest, the first novelty I discovered was a handsome fern a species of *Alsophila*, (*A. Colensoi*)—a genus new to N.Z., though plentiful in Australia; some specimens of this fern took the form of short tree-ferns, with a stem or trunk 2–3 feet high; while here and there, peeping amid the mosses, in little nooks at the bases of the larger trees, were those two pretty little plants, *Callixene parviflora*, and *Libertia micrantha*,—just as I had formerly found them on the mountains of Huiarau, on the western side of Waikaremoana, in 1841. Several new species of *Coprosma* were also here in great plenty and variety, especially in the more open spots; indeed, they grew so compactly together in some places, more like a clipped old Hawthorn hedge, that it was impossible to get through them, and so we had to walk on them! (This reminded me of what Dr. Hooker and the officers of the Antarctic Expedition had told me, in 1841, they had found in Auckland and Campbell Islands.) In many places those shrubs bore our weight and tread pretty well, but in some we slipped, and then it was really awkward and disagreeable, for we could not touch the earth below with our feet, and with all our exertions could scarcely extricate ourselves; fortunately they were not prickly. Here, too, grew abundantly, Forster's original species, *Coprosma fetidissima*, on which he had founded the genus, and which well deserves its doubly odorous name! I had never seen it before; and the natives with me greatly disliked its smell, calling it *Hupiro*, = double-strong-stench, its name in the interior. The *Panax* genus was also well represented here, a few new species I detected,—*P. P. Sinclairii*, *Colensoi*, and *simplex*. Here, but only in one spot, I discovered that beautiful fern *Hypolepis millefolium*; the only place in which it has yet been found in the N. Island. As we neared the summit,—which we were constantly expecting to see, and which, as we had never [20] caught a glimpse of it through the long forest, we could not help thinking we had somehow missed by taking the wrong spur; still, although we occasionally descended over undulating ground, we were gradually ascending, there was no mistake about that!—as we neared the summit, and also the end of the great forest, we fell in with many beautiful and novel shrubs of the genus *Veronica* (as *V. V. laevis*, *buxifolia*, *tetragona*, and *nivalis*). I was much gratified in finding *V. tetragona*, as I had long been in quest of it,—for I had sent a few years before a very small specimen of it (which had been given to me by Mr. Bidwell,) to Sir W. Hooker, who published a drawing of it with description in his *Icones Plantarum*, (tab. 580.)—before that, however, Sir William had received a barren branch of the same species from Dr. Dieffenbach, who had obtained it in Queen Charlotte's Sound (S. Island), a drawing of that specimen with description had also been given by Sir William in that same Botanical work (tab. 547), who then supposed it to belong to a Pine, and possibly a *Podocarpus*, naming it *P. Diefenbachii*. In its barren state it very much more resembles the branch of a Pine, than it does any other known N.Z. plant. Here were, also, several species of

*Pimelea*, (as *P. P. Gnidia*,<sup>1040</sup> *buxifolia*, and *Lyallii*.)—while a large stout species of the ever-to-be-remembered genus *Aciphylla* was, for us, alas! far too plentiful; but of this very peculiar plant more anon. Here too in great plenty was *Fagus Cliffortioides*, another Beech,—a species of much lower and more diffuse growth than the other N.Z. species of that genus, which we had left behind us, in our ascent. But when at last we emerged from the forest, and the tangled shrubbery on its outskirts, on to the open dell-like land just before we gained the summit, the lovely appearance of so many and varied beautiful and novel wild plants and flowers richly repaid me the toil of the journey and the ascent,—for never before did I behold at one time in N.Z. such a profusion of Flora's stores! in one word, I was overwhelmed with astonishment, and stood looking with all my eyes, greedily devouring and drinking-in the enchanting scene before me. I had often seen what I had considered pleasing Botanical displays in many N.Z. forests and open valleys, particularly at the Kerikeri waterfall (Bay of Islands),—before it was rudely disturbed by civilization!—and in a sweet well-remembered glen near the E. Cape,—again at Lake Waikare,—and on the mountains of Huiarau and of Ruatahuna, far away in the interior,—but all were as nothing when compared with this,—either for variety or quantity or novelty of flowers,—all, too, in sight at a single glance! Splendid *Celmisia*s and *Ranunculus*es in countless number, intermixed with elegant *Wahlenbergia*s and beautiful *Veronica*s, *Ourisia*s and *Euphrasia*s, *Gentians* and *Dracophyllums*, [21] *Astelia*s and *Caltha*, *Gnaphaliums* and *Gaultheria*s, and many others. Here were plants of the well-known genera of the Blue-bells, and Buttercups, Gowans and Daisies, Eyebrights and Speedwells of one's native land, closely intermixed with the Gentians of the European Alps, and the rarer Southern and little known novelties,—*Drapetes*, *Ourisia*, *Cyathodes*, *Abrotanella*, and *Raoulia*.—

“Flowers tell of a season when men were not,  
When earth was by angels trod;  
And leaves and flowers in every spot  
Burst forth at the call of GOD;  
When Spirits singing their hymns at even,  
Wandered by wood and glade;  
And the LORD looked down from the highest heaven,  
And blessed what He had made.”

It was observable, also, that while all those plants already named with many others were small-sized dwarf plants, pretty nearly of a uniform height, only rising a few inches above the soil, and growing together as thickly as they could stow,—more indeed, in this respect, like short turf Grasses, or Mosses,—there were also among them several new species of the common N.Z. genera,—the known species of which in other parts were mostly to be found as tall shrubs and small trees,—but here the new species were only of a very low rambling prostrate habit, resembling large trailing Mosses, almost hidden among the low herbaceous plants already mentioned; those new plants comprised *Myrsine nummularia*, *Pittosporum rigidum*,<sup>1041</sup> *Podocarpus nivalis*,

1040 WC: This is another plant I had long been looking out for, as it was originally discovered by Forster in the S. Island, when here with Cook, and on it he had established his genus *Banksia*, in honour of Sir Joseph Banks, (B. *Gnidia*) and it had not been met with since.

1041 WC: Discovered by me 2 years before on the mountains of Huiarau, during my second long journey through the interior; but there only as a shrub 4–5 feet high, being at a much lower altitude.

*Coriaria angustissima*, *Dracophyllum recurvum*, and several elegant Alpine species of *Veronica*, such as,—*nivalis*, *Lyallii*, and *catarractæ*.

Often, indeed, did the words of the great Teacher come to memory, (uttered, perhaps, by him when reviewing a similar Floral display as to beauty in the lovely lilded meads of Palestine,)—"Consider the lilies!" And more than once I exclaimed,—

"Full many a flower is born to blush unseen,  
And waste its sweetness on the desert air."—

Nor could I forget what is related of Linnæus,—who, on his arrival in England, and first seeing the wild broken country covered with the common yellow Furze in full blossom, fell on his knees in ecstasy at such a sight.<sup>1042</sup> Sure enough I am, that I then *understood* Linnæus' action, and fully sympathized with him.— [22]

But how was I to carry off specimens of those precious prizes? and had I time to gather them? These mental questions completely staggered me for I realised my position well. We had left our encampment early that morning, as I have already said, thinking the crest of the mountain range was not far off, and, consequently, taking *nothing* with us; so we were all empty-handed and no "N.Z. Flax" (*Phormium*) grew there. However, as I had no time to lose, I first pulled off my jacket, or small travelling coat, and made a bag of that, and then (driven by necessity!) I added thereto my shirt, and by tying the neck, &c., got an excellent bag; while some specimens I also stowed into the crown of my hat. I worked diligently all the time I was there,—and, though I did all that I possibly could, I felt sure I left not a little untouched.<sup>1043</sup> Fortunately the day was an exceedingly fine one, calm and warm, so that I did not suffer from want of clothing. That night I was wholly occupied with my darling specimens, putting them up, as well as I could, in a very rough kind of way, among my spare clothing, bedding, and books;<sup>1044</sup> only getting about 2 hours sleep towards morning.

Of all the peculiar and novel plants which grew on that mountain the large new species of *Aciphylla* (*A. Colensoi*,) was the one which we were all the most likely to remember,—not only for a few weeks but for all time! It gave us an immense deal of unpleasantness trouble and pain,—often wounding us to the drawing of blood. I suppose, that each one of the party,—speaking quite within probability,—received at least 50 stabs from that one plant,—which my native companions (without boots or trowsers) justly termed, *infernal!* I will attempt to describe

it from memory (although it is more than 25 years<sup>1045</sup> since I last saw it in its mountain home). Imagine a living circle of 5 feet diameter (the size of the full grown plant), with all its many harsh spiny ray-like leaves radiating alike outwardly from its carrot-shaped root, forming almost a plane of living elastic spears, composed of sharp and stiff points, or flat spikes, each several inches long, these make up the leaf, and many of them are set on each long leaf-stalk of nearly 2 feet in length; from the centre rises the strong flowering stem, an erect orange-coloured spike or stalk 5–6 feet high, containing many hundreds of small flowers, gummy (or having a varnished appearance,) and strong-scented. The general appearance of these plants, at times, reminded me of a lot of large shallow umbrellas opened and fixed upside down on the ground. Of course [23] there were hundreds of smaller plants, also forming circles, of all sizes, from 3 inches diameter upwards; while some still younger were just pushing their needle-like points (not in a circle but drawn together) through the mossy soil. These plants rarely ever intermixed their spear-shaped leaves to any great extent; they seemed as if they just touched each other with their living circle of points, and when we should put our feet as warily as possible on some tolerably clear spot between them, we were often caught on all sides as if in a man-trap, and not unfrequently roared pretty loudly from the pain, while our vain attempts to extricate ourselves often increased it. More than once each one of us was so seriously caught as not to be able to move without assistance. On one occasion in particular we all (save one—the sufferer!) had a hearty laugh over an adventure with one of these plants:—one of our party had been pricked, or stabbed, rather severely by an *Aciphylla* insomuch that the blood spurted out; at the sight of this he got enraged, and obtaining the long-handled axe, which another was carrying, he hastened toward the plant, vowing he would cut it up by the roots! the spear-like leaves, however, spreading-out all round like a circle of fixed bayonets,—being longer (including their big leaf stalk) than the helve of the axe and very elastic, quite kept him from doing any harm to the plant, which seemed to mock his impotent rage; so after gaining a few more pricks for his labour, he was obliged, doubly vexed though he was at our looking on and laughing, to give up the unequal combat!<sup>1046</sup> I may here mention, that when I next came this way from Hawke's Bay, I took two extra natives with me specially armed with long-handled axes to clear the way a little; otherwise baggage-bearers<sup>1047</sup> could never have got over those spots which abounded with the *Aciphylla*. One of these little open hills bore the ancient name of Maunga Taramea (Mount Taramea<sup>1048</sup>) from the plant growing so profusely there. The genus was founded by Forster, (one of the Botanists who accompanied Cook on his 2nd. Voyage,)

1042 WC: Having mentioned this, I may be permitted also to add, on the authority of our great English Botanist Sir J. E. Smith,—that Linnæus having taken a plant of our British Furze with him to Sweden, always lamented that he could scarcely preserve it alive through a Swedish winter, even in a greenhouse.

1043 WC: But probably secured in following years.

1044 WC: It may be worth recording for the N.Z. Colonist, and with the hope of encouraging the acquisition of specimens under difficulties, that of those specimens of Alpine plants obtained with difficulty on this occasion,—drawings of nearly 50 have been published, by Dr. Hooker, in his *Flora Novæ Zelandiæ*, and by his father Sir Wm. J. Hooker, in his *Icones Plantarum*, and *Species Filicium*; and, further, for many years those specimens were the only ones known of those plants to the Botanists of Europe.

1045 WC: Now, at date of publication, upwards of 32 years!  
*Tempus fugit!*

1046 WC: This story was too good to be lost, especially to a fighting race like the Maori, and the joke was long kept up at the expense of the poor fellow!

1047 WC: My bearers, too, having been warned, some by experience and some by hearsay, took with them on this occasion sundry old cast clothing to use as defensive armour. Dr. Hooker, in his *Hand Book N.Z. Flora*, (1864), says:—"There are apparently two varieties,—both are called" [down S.], "Spear-Grass," and "Wild Spaniard". Sir D. Munro states, that it forms a thicket impenetrable to men and horses." p. 92.

1048 WC: Taramea being the Maori name of this plant; meaning, The rough spiny thing; not unlike, in meaning, that given to it by Forster.

on a plant they found at Dusky Bay (S. Island), which, however, is very much smaller in all its parts and with fine lax leaves, though sharp enough,—hence its fit generic name, *Aciphylla* = needle-leaved.<sup>1049</sup> [24]

Had our countrymen and fellow-colonists from Great Britain,—from

————— “the hills of the North,—  
Where bloom the red Heather and Thistle so green;”—

had they ever required an indigenous plant in N.Z. to supply the place of their National emblem—"Old Scotland's symbol dear"—the *Thistle*, this one would have nicely suited them. For such another could scarcely be found so highly adapted in every respect to bear their well-known motto,—“*Nemo me impune lacessit.*”<sup>1050</sup>

One other curious plant I should also like to mention; a plant in every respect the very opposite of the *Aciphylla*,—for it was small and soft (woolly), and only one was seen! not only on that occasion but on every other, for I have never met with it since, although I have often sought it diligently; nor has it since been found in the South Island (or any where else) save once by the late Dr. Sinclair; who, according to Dr. Hooker, met with it at Tarndale, at about the same elevation (5000 feet) and in a similar situation "growing in shingle." This little shrubby plant of only a few inches high, is a very peculiar one,—it scarcely seems like a living plant at all, being so dry and sapless and densely woolly, more like an artificial flower, or those which we may have sometimes seen projecting in *alto relieveo* from thick floccose or rough dining-room wall papers. Every part of it, stem branches leaves and flowers, is alike covered with dense white wool, giving it a strange appearance. This plant, a species of *Helichrysum*, or *Gnaphalium* (*G. Colensoi*), grew on the edge of the top of the second ugly pass,—composed entirely of dry shingle of various sizes from big lumps to dust,—(which was continually falling from the cliffy height above, where the rock and stones were undergoing rapid disintegration through the incessant action of the elements,)—up this it was difficult to climb from the softness of the pile of natural "metal" and the great steepness of its incline, in which we sank to our knees at every step, and sometimes were carried down a few feet by the rolling shingle. A drawing of it is given in the *Flora Novae Zealandiae* under the name of *Helichrysum leontopodium*; the difference however between those two genera (*Helichrysum* and *Gnaphalium*) being so very slight and tending to separate closely-allied species, they are now combined by Dr. Hooker in his *Hand Book of the N.Z. Flora*. This little plant is allied to the celebrated Edel-weiss of the Swiss Alps. Near to this plant grew another, a species of *Geum* (*G. parviflorum*), which, curiously enough, was also a solitary one of that species, it not having again been detected in the North Island,—though it has been found in similar localities in the South Island, both by Dr. Sinclair

1049 WC: In a subsequent journey I brought away living plants of *Aciphylla* (with several other mountain novelties), which did pretty well in my garden at the Station at Waitangi for some 2–3 years, until a heavy flood came, when they (with many other Alpine plants) were submerged and killed by the thick deposit of silt. Five species are now known, and described by Dr. Hooker. Dr. Lauder Lindsay has also subsequently fully described *Aciphylla Colensoi*, with coloured drawings and dissections in his "Contributions to the Botany of New Zealand",—a work that I have only very recently seen.

1050 No one attacks me with impunity.

and by Dr. Hector; and [25] Dr. Hooker also found it in the Auckland Islands group;<sup>1051</sup> it is also found in S. Chili and Fuegia.

Single plants, like these two last mentioned, found alone in their natural habitat, each, too, bearing a profusion of flowers and seeds,—raise a curious question in Geographic Botany; one causing much thought and not easily answered.—

I must not omit to notice the Grasses of the mountain. Of them I found several species (more than I had expected) belonging to various genera, these have all been subsequently published by Dr. Hooker.<sup>1052</sup> A few of them are identical with some of our esteemed English pasture grasses,—as *Festuca duriuscula* (Hard Fescue) and *Agrostis*, species, and also *Hierochloe alpina*; while others of them are also found in Tasmania and Australia. Some are new, and have not yet been detected anywhere else in New Zealand; others of them have been since found in the South Island;—one, a new species of *Poa* (*P. Colensoi*) which I brought from the summit, is common in the South Island, and is said to be among the best of the indigenous food grasses of New Zealand;<sup>1053</sup> —and, curiously enough, one species, *Catabrosa antarctica*, has only been hitherto met with in the far off antarctic islet Campbell Island, where it was also found by Dr. Hooker. None, however, grew thickly<sup>1054</sup> together forming pastures,—like the well-known native grass here on our Hawke's Bay hills, *Microlæna stipoides*, and the common grasses of our meadows,—except here and there around a few snow holes, and snow water courses of gentle declivity, where a very short pale grass grew thickly, but only extending a few feet each way; it always bore a half-withered appearance, no doubt caused by the snow and the sun. Nearly all of the various species of Grasses were found in single plants or small tufts scattered among other herbage,—except the one short turfy species by the snow holes beforementioned; and one other small grass, a species of *Erharta* (*E. Colensoi*), which grew in cushion-like patches, or large tufts, scattered here and there on the tops.

There were also several new species of Mosses, *Hepaticæ*, and Lichens, [26] obtained on this visit, some of them being highly curious; a few I may briefly mention. On the bleak topmost crags I found two species of *Andreae*, (a peculiar genus of Moss,) nearly the colour of the dark rocks on which they grew; this is a small genus common in arctic and antarctic lands, and these were the first specimens of that genus discovered in New Zealand,—one of them was also a

1051 WC: This plant was first described by Dr. Hooker in his *Flora Antarctica*, vol. I, as *Sieversia albiflora*; where a drawing of it is also given.

1052 WC: Plates of several of these Grasses are also given by Dr. Hooker in his *Flora Novæ Zealandiae*.

1053 WC: Some time ago I received a letter from a friend, a Naturalist, travelling in the South Island; in it he says:—"For the first time I had some idea of the importance of those Grasses *Poa Colensoi* and *Festuca duriusculo* to the stock feeder. Thousands of acres of poor stony land are covered, or, correctly speaking, carry little else than these Grasses, mixed sparingly with *Trisetum Youngii*, *Raoulia*, *Gentian*, and *Aciphylla Colensoi*; but the stock feeding on such pasture is everywhere in good condition."

1054 WC: Said, by Dr. Hooker, to be a depauperated variety of *Festuca duriuscula*; found also on the mountains in the South Island.

new species; neither of them have since been detected in this country, although both have been found in Fuegia and the South American Andes. I also found there, on those exposed stony summits, *Usnea melaxantha*, a remarkable and rare black Lichen of the Andes and of arctic and antarctic latitudes.—Growing with this was another curious plant, a fine species of *Stereocaulon* (*S. Colensoi*<sup>1055</sup>), both plants being highly indicative of rigour and exposure.

“This is the highest point.—  
How bleak and bare it is! Nothing but mosses  
Grow on these rocks.—  
—Yet are they not forgotten;  
Beneficent Nature sends the mists to feed them.”

Numerous species of the beautiful Order of *Hepaticæ* I also managed to secure and bring away; the drawings of several of them with magnified dissections have also been given by Dr. Hooker in his *Flora Novæ Zealandiæ*; these, however, must be seen and studied in order to appreciate them; for, minute and insignificant as many of them appear to be at first sight, and to the untrained eye, no Natural Order of Plants more richly repay investigation, or more fully exhibit the wondrous and lovely variety skill and economy of Nature.

“GOD made them all,  
And what He deigns to make should ne'er be deem'd  
Unworthy of our study and our love.  
The man  
Whom Nature's works can charm, with GOD Himself  
Holds converse.”

The view from the top on the Eastern and Northern sides was very extensive,—extending from Cape Kidnappers to Table Cape, and thence to Mount Tongariro and further. The whole of Hawke's Bay with all the interior plains appeared like an immense panorama spread out beneath us,—but much too distant low and flat, and too dull in its colours,—of rusty fern, and dingy Raupo (*Typha*), and pale cutting-grasses, and dry withered plains, with a lead-coloured misty-looking sea in the distance,—to present anything of a pleasing appearance. In the view from the summits looking towards the East I was greatly disappointed.

Two kinds of birds which we saw peculiar to that region deserve a passing [27] notice. One was the pretty little blue-grey mountain duck, or teal, the Whio of the natives (*Hymenolaimus melacorrrhynxes*). This bird is common in most of the retired mountain streams of N. Zealand, and is a graceful quiet harmless creature; we met with it on almost every turn of the river, but always swimming. I often stopped to admire their graceful movements, as they allowed me to get pretty close up to them, owing to their innocence of Man! in all probability never before having been disturbed by him in their native haunts. Their flight is but short, and they often dive. It was a pleasing sound in the night silence to hear their plaintive sibilant whistle—*Whio* (the Maori word drawn out), hence their name. From the sound of their cry, by night, it seemed as if they were being carried down by the current; and I fancied it was done by them to keep up their companionship with each other in the dense darkness. The other bird was a small brown one of the

size of a lark, but with a white head,—which, together with its mute familiar habit, gave it a strange appearance. This bird was only noticed in the thickets near the top of the range, where, on our sitting down or resting, several would soon come closely around us, looking inquisitively, and noiselessly hopping from spray to spray. It was wholly new to me; and the natives with me did not know its name. I often, in my subsequent visits met with this little bird, but only in that one particular locality. I never once heard its note. We named it Upokotea, and Pokotea,—from its white head. I could not prevail on myself to kill any of them to carry away as specimens.

Two other small animals captured during this journey may also be briefly mentioned. One was a very singular Spider, which I obtained in the lower forests, living in nooks and crannies in the earth at the foot of trees and shrubs; it was of a thick oblong shape, and black colour, much more arched in its back than spiders generally are, with several curious sharp jutting points in its back and sides, making it appear more like a beetle than a spider, and giving it a very strange appearance, altogether different from any species of Spider I had ever before seen: of this species I got several specimens. The other was a peculiar little molluscous animal, of the Linnaean genus *Limax*,—a kind of slug about 1½ inches long, possessing a small external dorsal shell, and therefore probably belonging to the genus *Testacella* of Cuvier,—which, however, has its shell near its posterior extremity. This pretty little animal I found on moss on a living Beech tree, very near the summit of the range. I only obtained one specimen, which, I regret to say, I lost, and never after met with another.—

The remainder is now very briefly told.—

Tuesday, Feby. 11. At an early hour this morning we struck tent, ate our scanty breakfast, packed up, and commenced our journey back to the Station. We travelled on all day (as we had agreed to do,) in moody silence, until 7 p.m., when we halted for the night at a little wooded place on the banks of the Waipaoa river called Motu-o-wai, and not far from the present village of Tikokino—[28] formerly well-known, but now that isolated wood of white pine trees is washed away! We were very tired and hungry, and sore with so much walking over boulders and stones in the bed of the river, and with the incessant wading; 108 times<sup>1056</sup> did we wade in this day's march across the main stream, in some places the current was so strong and the water so deep that we could scarcely keep our footing; the water, too, in the upper portion of the river, was icy cold. We lay down that night without much ceremony, and early the next morning we resumed our journey, reaching the western banks of the Lake Rotoatara at 1 p.m. Here we bawled to

1055 WC: Named by me *S. botryoides*, from its clustered fruit; but altered by Professor Babington, to its present name. And now, (1884,) finally removed to the genus *Pilophoron* (*P. Colensoi*) by Dr. Knight.—Trans. N.Z. Instit., vol. XVI. p. 400, with a drawing.

the *pa* on the island for a canoe, and made small fires of herbage (there being no wood) as signals, but were neither heard nor seen (the wind being against us). At sunset, however, we were fortunately observed; and crossing over to the island we got food and slept there. The next morning, public prayers and breakfast over, we started pretty early for the Mission Station, where we arrived at 8 p.m., very weary,—but, I trust thankful to God for His many mercies.— And thus ends my first attempt to cross the Ruahine mountain range.

“Nil sine magno  
Vita labore dedit mortalibus.”<sup>1057</sup>

HOR.

## PAPER II.

### MEMORANDUM OF A JOURNEY INTO THE INTERIOR, IN WHICH I SUCCEEDED IN CROSSING THE RUAHINE MOUNTAIN RANGE, WITH NOTES ON THE PECULIAR LOCAL BOTANY OF THAT REGION, ETC.

[Read before the Hawke's Bay Philosophical Institute,  
October 14th, 1878.<sup>1058</sup>]

#### WITH ADDITIONAL AND COPIOUS NOTES.

“Upon the sides of Latmos was outspread  
A mighty forest;—  
And it had gloomy shades sequestered deep  
Where no man went.”— *Endymion*. KEATS.

“Alloi kamon, alloi onanto.”= Some toil, others reap.  
*Ancient Proverb.*

On a former occasion I narrated my first visit to the Ruahine mountains, in which, after much toil, I succeeded in gaining the summit, although I failed in crossing the range.

I should not now greatly care to say anything more about it, but for three reasons: (1) To note particularly the localities of the peculiar Botany of the interior,—then, for the first time found, and not since, I believe, detected;—(2) To leave on record some mention of the difficulties of travelling in New Zealand in those earlier days, before there were either roads or horses, and when even [30] the route itself was necessarily so very difficult and different to what it is now:— and (3) to show that I did accomplish my original intention,—“*perseverando vinces*”!<sup>1059</sup>

As may be readily supposed—by those who have heard my first attempt to cross the Ruahine—I had had quite enough of the toil and hardship attending that journey soon to repeat it on the E. sides of the range; yet being still greatly desirous of visiting those Natives living beyond it, I was determined to do so as early as circumstances would permit. This,

1057 Life has given nothing to man without great labour (Horace). Colenso's own translation.

1058 WC: “At the close, Dr. Spencer proposed, and Mr. J. A. Smith seconded, a unanimous vote of thanks to Mr. Colenso for his very interesting Paper, which was also earnestly supported by the Rt. Rev. Chairman (the Bishop of Waiapu), and warmly accorded by the meeting, with a further particular wish, that the same should be recorded.” Ext., Proceedings, Trans. N.Z. Inst., 1878, vol. XI. p. 570.

1059 By persevering, succeed.

however, I saw could not be again attempted for some time, as I had not only a great deal to do at home in a newly-formed Station, where everything depended on myself; but I had also a large amount of other distant travelling to perform;<sup>1060</sup> besides it seemed all but impossible to get Natives to accompany me,—although they were quite ready to go with me on other journeys,—the last one having so greatly disheartened them.

During that year, (1845,) I was laid aside for some time through a severe attack of low fever, and when I had scarcely recovered I had to travel on foot in mid-winter to Poverty Bay on important business, and back to my residence at Waitangi;—and then, by the coast line, to Palliser Bay and Wellington, and to Ohariu and Ohaua in Cook's Straits,—and back again to Hawke's Bay through Wairarapa and Manawatu. Being the first European who travelled through the then dense and all but impassable forest (“70 mile Bush, S.”) lying between the Ruamahanga in Wairarapa and the Manawatu rivers, where I also gained several rare Botanical novelties. And then I had a similar amount of heavy travelling on duty to perform throughout the following year, 1846; during which year I spent seven months in my tent.

Therefore, it was not until early in the year 1847 that I again recommenced my journey to Patea; this time by the “round-about-way” of Taupo.—I should here however mention, that during the preceding year I had been twice on foot over this new ground as far as Tarawera, between Hawke's Bay and Taupo Lake; and had made every enquiry relative to the Patea natives and the route thither,—though the information received was almost nil.

Having got all ready for our journey, myself and five natives (including my old friend Paora, who was still very desirous of seeing his mother's tribe), we started from Waitangi on the 9th February. Crossing the Ahuriri harbour in a canoe, for which we had to wait there some time, and travelling on, we brought up for the night at a small maori village on the banks of the Petane river,—about two miles above the present School-house, but not by the present near road thither.

The next morning, breakfast over, we again moved on, stopping at Kaiwaka to roast a few potatoes for our dinner, and halted for the night at a place on the hills called Wahieanoa. Wind very high this day, and suffering from a half-sprained ankle. At night for a long time in constant succession the noisy Petrels kept flying—in from the sea to their breeding homes in the clifffy sides of the high hills beyond us. I had often heard them on former occasions, when spending a night at Petane and Tangoio, and other villages near the sea, but this night they seemed by their cries to fly much lower, possibly attracted by our fires. The natives on foggy nights make fires in suitable spots on the high hills near their nests or burrows to attract them, and kill numbers of them easily with their sticks. They are very fat and are considered dainties.

“Above, in the light  
Of the star-lit night,  
Swift birds of passage wing their flight:—  
I hear the beat  
Of their pinions fleet:—  
I hear the cry  
Of their voices high

1060 WC: See Note C, Appendix.

Falling dreamily through the sky.  
But their forms I cannot see."

11th. Early this morning we recommenced our journey; the westerly wind still dreadfully high so that on those exposed heights we could scarcely stagger on against it! Halted at Te Pohue to breakfast; thence on, by the mountain pass Titiokura, to a little village on the banks of the Mohaka river called Mimiha, where we halted for the night.— In ascending towards the crest of the pass—Titiokura, I was much pleased in again observing that fine plant *Ourisia macrophylla*; it grew in large beds, or patches, in boggy and damp spots by the sides of the mountain streamlet, and being in full flower and undisturbed looked well with its large glossy leaves. I had first met with this fine plant in 1841, in the country between Poverty Bay and Waikare Lake, but then it was not in flower.<sup>1061</sup> Dr. Dieffenbach had also found it growing at Mount Egmont. This is one of the few fine "garden flowers" of New Zealand. Here, on the high ground among the fern, grew my new species of *Coriaria (C. Kingiana)*,<sup>1062</sup>—presenting much the same appearance as when I originally discovered it in 1841; this plant, in a soil it loves, would look well in the foreground of a large shrubbery. On the summit I discovered [32] several Botanical novelties: viz.—a fine bushy species of *Gnaphalium (G. prostratum)*, of low growth but with numerous ascending branches bearing a profusion of flowers. This plant was also found by Sir J. Hooker in the Antarctic Islets, who has given a fine drawing of it in his *Flora Antarctica*, tab. 21. A peculiar tufted *Ranunculus* with small leaves on long petioles and bearing very long scapes (*R. multiscapus*): a low shrubby species of *Coprosma (C. depressa)*, bearing sweet berries which were good eating: and a very low plant of *Gaultheria* having large edible fruit hidden under its leaves,—reminding one of the allied Whortle-berry of one's native Land; this plant,—which also grows plentifully on the open downs of Taupo, and elsewhere,—is, I suspect, placed by Sir J. Hooker, under *G. antipoda*, as a var. of that species; but it varies greatly from the true *G. antipoda*, which is a very common plant,—particularly at the N. parts of this island, and differs widely from it in habit, &c. Among the crags I found,—a curious species of *Exarrhena (E. saxosa)*, densely covered with coarse white hairs: a minute species of *Pozoa*, a pretty little plant, resembling the coast species (*P. trifida*), but smaller in all its parts, with coriaceous sessile leaflets and bearing bristly hairs: and, hidden among the stony cliffs, a very small Fern of compact cæspitose growth, a species of *Grammitis*,—which Sir Jos. Hooker has included<sup>1063</sup> under *Polypodium Australae*, but which is, in my opinion, very widely different from all the states I have seen of that plant,—as well as from my *Grammitis ciliata*,<sup>1064</sup> (a rare and little known Fern, which I also believe to be specifically

distinct,)—although, in the "Hand Book", Sir J. Hooker has also included this, and others also, with it. Two additional species of the genus *Uncinia* (*U. leptostachya*, and *U. rubra*.) I also obtained here; this latter species often gave to some parts of the dry plains in the interior quite a red hue when viewed from a distance, so that, at first, I wondered what it could possibly be that made them look so strangely red.<sup>1065</sup> From a small isolated hill near the centre of the pass is a delightful view of Ahuriri and the southern part of Hawke's Bay including Cape Kidnappers;—

—"Where the round ether mixes with the wave;"—

—this landscape is well worthy of a drawing. I have often in passing this way, when the weather was fine and air clear, contemplated it with admiration.<sup>1066</sup>

"A thing of beauty is a joy for ever:  
Its loveliness increases; it will never  
Pass into nothingness."—[33]

The old road by the ancient maori track through the fern, in descending from Titiokura to the banks of the river Mohaka, was then very different to what it is now; for, on nearing the high banks of that river, a sharp turn was taken to the right running parallel with it, by which you descended into a small stream at a place called Mangowhata, and crossed it at the very edge of a cataract, on indeed the slippery brink of the bed of a single rock forming the fall, which curved suddenly upwards towards the verge, and having a deep dark pool close within; and then, on landing on the opposite side you climbed up a steep ascent until you came again quite as suddenly on to the very brink of the cliff, by the edge alone of which the track lay! This was owing to the high hilly back ground immediately above falling very abruptly towards the cliff in front. Both those perpendicular spots, situated too within a few yards of each other, were very dangerous, and, as a track, fearful to look at; and, in travelling inwards the interior, you could not see them owing to the thick overhanging fern and other herbage growing on the brink, until you were on, or partly passed, them, and then it was too late to think of retreating. I supposed the height of the waterfall to be about 80, and that of the adjoining cliff about 120, feet. The small stream in the summer season was often lost in fine spray before it reached the bottom, where it fell into a semi-circular basin, or large pool, having thickets of white pine and other trees on the low banks around it. After my first surprise on my first visit, in which I was very nearly carried over, I always managed to crawl along on my hands and knees through the fern and small manuka shrubs (*Leptospermum*). Once passed this place, however, the descent to the Mohaka was gradual and easy, which indeed was the sole reason of the old natives adopting that course.<sup>1067</sup>

1061 WC: Roots, however, which I obtained and planted at the Bay of Islands, subsequently flowered. Vide, "London Journal of Botany," 1844, vol. III. p. 19.

1062 WC: "Lond. Journal of Botany," 1844, vol. III. pp. 20, 21. I don't know under which of his three species of this genus in the "Hand Book", Sir Joseph Hooker has placed this (to me) very distinct plant,—I mean, distinct from the other N.Z. species,—possibly under *C. thymifolia*; but que. I have long been convinced of our having four, or, perhaps five species of this genus in N.Z.

1063 WC: In the "Hand Book", not in the Flora N.Z.

1064 Described in Tasmanian Journal of Natural Science, 1844, vol. II. p. 166.

1065 WC: See, "Trans. N.Z. Institute," vol. XIV. p. 53,—for some remarks on this plant.

1066 WC: A modern Ecclesiastical writer has pleasingly said, (in writing on the Apostle Paul,) "We can hardly believe that he who spoke to the Lystrians of the 'rain from heaven,' and the 'fruitful seasons', and of the 'living GOD who made heaven and earth and the sea', could have looked with indifference on beautiful and impressive scenery."—As that of Tarsus, with the river Cydnus, and the mountain heights of Taurus. (Conybeare and Howson.)

1067 WC: Some 2–3 years after this, a party of Natives from the interior bringing some pigs for sale at Ahuriri,—several of the animals went over this cliff and were killed; this, however, was not the first time of such happening. The wonder with me was,

12th. This morning we crossed the Mohaka, which is pretty rapid here, without very great difficulty;—by means of long poles to which we secured ourselves, and by wading diagonally;—in some places, however, we could scarcely keep our footing, and there is a cataract just below.<sup>1068</sup> The bases of the cliffs, [34] near the water's edge were closely covered with a matted vegetation of a small species of *Viola* (probably *V. Cunninghamii*), which bore fruit plentifully but was without flowers. Travelled steadily on to a place at the edge of a forest named Te Waiparatu, where was a stream of water, and where we halted to roast "our roast" (potatoes); thence, resuming our journey, four hours more walking brought us to Pirapirau, a small village of Tarawera district: much fatigued today with the hot dry and dusty pumice! which overlies much of this country.

I gained, however, a few new and interesting plants; among which were,— a new species of our endemic genus *Melicytus* (*M. lanceolatus*), making, as I think, the sixth species of that genus found in N. Zealand;<sup>1069</sup> also, two species, or varieties of *Aristotelia*, now placed under *A. fruticosa*. I also noticed, on the higher grounds in the forests, some remarkably large specimens of that curious genus *Griselina*, which, from their huge grotesque yet dumpy trunks, seemed very aged; here, also, were some large specimens of *Carpodetus serratus*,—one which I measured being 4 ft. 5in, in girth; a distinct species of *Drimys*, (originally discovered by me in 1841, on Huiarau,) *D. axillaris*, a much larger and handsomer tree than the species found at the N., was also common here: this plant would make a fine shrub for a shrubbery if it would live away from the forest's shade.—On the barren pumice plains near Tarawera grew commonly in clumps a new species of low shrubby *Dracophyllum* (*D. subulatum*). In the streamlets, deep down in the narrow ravines which intersected this pumice-stone plain, were many elegant fresh-water *Algae*,—of the genera *Conferva*, *Tyndaridea*, and *Oscillatoria*, of various colours,—one, in particular, possessing a steel-blue metallic appearance; of all these I secured specimens for Home. From the sides of a small river near the village I obtained a peculiar looking Grass, *Gymnostichum gracile*; and from a cliff overhanging the

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how they managed to get them along at all! But not long after that, on the Maoris getting horses this track (with many other similar ones) was completely abandoned.

1068 WC: On one occasion I was shut up here on the W. side of the Mohaka in time of flood for nearly 3 days, with very little to eat! While we were there waiting the subsiding of the waters, another travelling party of Maoris arrived, also from the interior, who were going in the same direction to the coast; after consultation we managed to cross and to escape, by collecting with no little trouble dry raupo (*Typha*) leaves and flax flower-stalks, wherewith to make a big moki, or catamaran,—also, green flax leaves to twist into ropes. Having finished our huge unwieldy raft, which occupied more than a day in making, it was thrown into the river, and towed up through the still water a considerable distance, to allow for the strength of the current, now very great, besides we all feared the waterfall below; then, our baggage, myself, and dog being on it, it was dragged and shoved and drifted amid much uproar to the opposite shore, the natives swimming and propelling! Taken altogether, with the dark frowning cliffs on either side, it was a scene worthy of a sketch.

1069 WC: An undescribed plant, a small tree of upright growth, discovered by me in a wood near the sea a little N. of the East Cape, in 1841, and referred by me to this genus, has leaves 10in. in length. Unfortunately, though I saw several trees there, none were either in flower or fruit; and I have never since met with it. (Vide, Lond. Journal Botany, 1844, vol. III. p. 8.)

stream, a fine new species of *Gaultheria* (*G. oppositifolia*), which greatly pleased me. Strange to say I have never found another plant of this species, although from its size, large green leaves, and unique appearance, it is not easily overlooked. In subsequent years when passing by this way I often obtained good specimens from it. [35]

At this little village I remained two days; the natives (who had lately embraced Christianity) wishing me to spend a Sunday here with them,—and I was very desirous of giving my still painful ankle a rest. This village is on the very edge of a dense dry forest, so that it was truly delightful to wander in its shade, which I did for some hours this day (Saturday), while waiting for the natives to assemble, who were at this season absent at work in their several scattered and distant plantations. There I obtained many choice and elegant specimens of the Orders *Hepaticæ* and *Musci*;<sup>1070</sup> some of the former were odoriferous, and of the kinds formerly used and prized by the New Zealanders for scenting their anointing oils.—

— "Within the gloom of these majestic woods;  
Roaming or resting under grateful shade,  
Where living things, and things inanimate,  
Do speak at Heaven's command, to eye and ear,  
And speak to social reason's inner sense,  
With inarticulate language."—

Monday, 15th. Rose early before 5 and started at 6; halted at 7.30, at a place called Opitonui to breakfast. This was a truly pretty spot; in a grassy patch near, that neat little plant of *Liliaceæ*,—*Herpolirion Novæ-Zealandiæ* abounded, enlivening the place with its flowers; yet it was the only locality I ever saw it in: the discovery of this gem pleased me very much. After leaving Opitonui the travelling was wretched! up high hills and through lately burned forests,—black prostrate trees and ashes! without any vestige of a track, so that we were often at a loss. We all wanted water greatly during this day's hot march; at last I found some in a large hole in a *Tawhai* tree (*Fagus ?fusca*),<sup>1071</sup> which, dark-coloured and nauseous as it was from the leaves of the tree, seemed like nectar to our dry throats. The *Fagus* trees of this forest were remarkably fine and straight;

— "forests huge,  
moult, robust, and tall, by Nature's hand  
Planted of old;"—

and standing largely apart, so that there was no difficulty in travelling through them; this is mostly the case in the forests of this tree, where there is little or no undergrowth, owing, no doubt, to the shedding of its leaves, which thickly cover the ground. Our easy travelling, however, was not without danger, for there was no track, or we could not find it, having lost it early in the morning, so we travelled in a great measure by compass. I was not a little surprised today, in walking through open fern-land, to find the fern covering the ground to be a species of *Dicksonia*, which there grew much like the common N.Z. fern, or [36] Bracken (*Pteris esculenta*). It extended for some distance, and presented a novel appearance. From its habit and manner of growth, &c., I named it *D. unistipa*,—but I find Sir J. Hooker has considered it to be the same as *D. lanata*, (to this fusion, however, I cannot agree,) very likely owing to his receiving

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1070 WC: A large number of them will be found in the "Hand Book Flora N.Z."

1071 WC: Vide "Tasmanian Journal of Natural Science", vol. II., p. 234; "London Journal Botany", vol. III., p. 19, 20; also, Hooker's *Icones Plantarum*, tab. 630, 631.

parts only of fronds from me, the similarity in several species of the *Dicksonia*, and also of the allied genus *Cyathea*, being very great; so that it is almost impossible to distinguish their true characteristics from dried specimens of portions of large fronds. We called at Moturoa, a small village on the Taupo plains, hoping to get a little food, but there was none to be had at this season,—the potatoes not being yet ripe in these high localities. Proceeding on, very wearily, (my native companions sadly needing food, and I still in pain from my ankle,) we met a woman with a large basket on her back, who had just come from a clearing in a thicket hard by, in which there was an old forsaken potatoe plantation. Poor soul! she had travelled a few miles thither in hopes of gleaning some food for herself and children, and now was returning to her home;—with that genuine hospitality so common to the New-Zealander, she soon dropped her load and gladly gave us (strangers) a few handfuls of the smallest potatoes I ever saw! they were all throughout just the size of marbles (not *large* ones), or of the potatoe berry, yet pretty nearly ripe!—forcibly reminding me of what the potatoe was originally in its native woods. We continued our course towards Taupo Lake; passing a waterfall, which came out under a natural bridge; and a little further on the head of the Rangataiki river, which here takes its rise from a small lake; and crossing the great plain brought up at 7 p.m. at a common place of bivouac of the Maoris named Ohineriu; all hands completely *tired!* Here, unfortunately, was neither wood nor water; we tried, however, to get a poor fire by pulling up the withered tufts of long wiry grass, which, according to the mode practised here by the natives of these parts, we twisted together before burning, through which device they did last a little longer, and so we managed to scorch our scanty supper of small potatoes, and soon lay down as we were for the night,—with the stars shining down upon us.

16th. Rose, stiff, and very unwillingly, at 5, and soon started. An hour brought us to a beautiful clear stream of water, which we were told was the head of the Mohaka river, that here takes its rise from a small lake to the S. and E. of the large lake of Taupo,—its water was very cold, and appeared delicious. There being no wood here by this stream we were unwillingly obliged to continue our journey, and that without much stopping, to reach a breakfast place. I obtained, however, an elegant fern, a *Gleichenia*, which grew thickly together and of uniform appearance and height in beds or patches on the low wet banks of the stream; this novelty pleased me much and I named it *G. Hookeriana*; but I find Sir J. Hooker has placed it as a var. (*alpina*) of *G. dicarpa*; from that old and well-known Australian species I still think it will yet be found to be specifically [37] distinct. A species of *Cyathodes*,—apparently differing widely from the N. form, in size, leaf, flower, and fruit,—grew here on the hills, which plant, however, Sir J. Hooker has placed as a var. of *C. acerosa*; to me it seemed very distinct. Travelling on, in an hour more, we reached a wood called Te Kotipu; here, at last! we breakfasted on boiled rice. Looking about in this wood, while breakfast was getting ready, I detected a new species of *Pittosporum*, a handsome leafy small upright shrub, with dark-green leaves, which I named *P. viridis*,—now, probably, the *P. fasciculatum* of Sir J. Hooker. From this wood we proceeded on towards Taupo Lake, passing Te Waiharuru, where a stream rushes leaping and bounding underground through an awful chasm, shaking the earth for some distance around,—whence its fit name the Rumbling Water. From this place we travelled to Hinemaia, another river of bounding water: thence to Apungaotekura,—the course being mostly up hill. At 6 p.m.

we gained Orona, a small village on the Taupo Lake, very hungry and very tired.—For the last 3 miles, however, the travelling was comparatively easy, over open ground and downhill.

17th. The next morning we did not leave very early, being wholly dependent on these villagers for our breakfast; while it was cooking I strolled on the sandy shores of the lake, and there detected a new species of *Chenopodium* (*C. pusillum*.) growing plentifully. In conversing with an aged native, I found, that he was one of that very marauding party who had attempted the descent on southern Hawke's Bay natives in years gone by, and who, owing to the sudden loss of a number of their party on the tops of the Ruahine range, through their being carried down by the snow, had returned without effecting their design (as related by me in my first Paper, page 17). He narrated the whole affair, giving the names also of those who had so miserably perished there; and gravely adding, that it was all brought on through one of them having wantonly desecrated that sacred spot—the heights above (*mingit*). Which superstitious belief had, I suspect, a great deal to do with their not seeking to afford their unfortunate comrades any relief. It having also been construed by their priests as ominous of future defeat at Hawke's Bay, if they persisted in going thither, caused them to return. When this man heard from Paora, that I had been on that very spot, he got angry, and would not for some time believe hirn,—making also a great fuss about our now going thither or returning to Hawke's Bay by that way—on account of its sanctity—being a *tapu* spot! Forcibly reminding me of what the old Maori priests at the N. had formerly said, when they found that I had really been to the Reinga (beyond Cape M. V. Diemen), and had drunk of the sacred "spirits well" there.<sup>1072</sup> [38]

Leaving Orona we travelled S. by the shore of the lake to Motutere, a much larger village than the former, reaching it at 1.30; here were several natives. We staid here a while to dine, being hospitably pressed by the natives. Just outside the village a single large sized Karaka tree (*Corynocarpus laevigata*) was growing; a rare sight so far from the sea-coast. At 3p.m. we left, and travelling steadily on halted late on the banks of the river Waikato, near its head, where we found a small party of natives employed in dubbing timber. We had heard of them, and were in hopes of getting something from them to eat, but, unfortunately, we were again obliged to go supperless to bed.—

18th. Rising this morning we were constrained to await the arrival of a native who had gone to fetch some potatoes. We left, however, at 8, being ferried across the river by the natives in their canoes,<sup>1073</sup> and arrived at Rotoaira village, at

1072 WC: Viz. On Easter Day, 1839. From this little stream, which runs over the rocks into the sea, close to the celebrated Reinga, or Spirits' Leap into the lower world, (according to their legendary belief,) they (the spirits) take their last draught of earthly water ere they mount the ridge and take their final plunge into the realms below! my dog, on that occasion, had the hardihood to do as I did, and to quench his thirst there! to the great indignation of some of the Natives.

1073 WC: On another occasion, however, I was not so fortunate. We had been staying at Rotoaira, on our returning from Patea and Murimotu, and on leaving the village were assured that we should find canoes and natives here. On our arriving there were neither—not anywhere whereabouts, and we were sorely puzzled how to act, for the river was high, and the distance, back to Rotoaira long; we did, however, at last, get over safely, the baggage being the difficulty. I had to swim across with a newly twisted green-flax rope girt round me, lest I should be carried

the base of the Tongariro mountain, in the afternoon, and were well received by the natives,—so here we stopped the night. As this was the last S. village of the Taupo country I endeavoured to get a guide hence to the Patea district, and only after great difficulty succeeded; as the country over which our course lay was rugged and difficult, and there was no regular track hence to the Patea villages; only once a year,—or in 2, or even 3 years,—did a small party of Maoris visit Taupo from Patea; rarely if ever did any go from Taupo to Patea. Nothing is more surprising *to me* among the many and great changes which have been effected in this country during the last 40–45 years, than this,—of common fearless communication between the Maori *pahs* (villages) and tribes, which intercourse formerly did not exist,—not even between what are now considered (even by the natives themselves) as neighbouring villages. I could not, however, help fearing, that, just as on a former occasion so now, our “guide” would prove to be of little real service.<sup>1074</sup> [39]

Among the interesting plants I obtained this day, was a species of *Gentiana* (*G. saxosa*, var.,):—a small prostrate species of *Coprosma* (*C. repens*), bearing large succulent orange-coloured fruit, each berry often containing 4 nuts; this species seems identical with one found by Sir J. Hooker in the Antarctic Islets, of which a plate is given in the *Flora Antarctica* (tab. 16): two species of *Epilobium*, one being *E. Billardierianum*: and a new species of *Acæna* (*A. microphylla*),—this last pretty little plant with its crimson fruit pleased me much. A. Cunningham’s fragrant little heath-like plant (*Leucopogon Frazeri*) was common to-day, in many spots on those dry hills and plains; its flowers are certainly foremost among the sweet-scented ones of N.Z., of which there are not many. The whole plant being so very small and insignificant, yet often filling the air with its delightful odour, brought Wordsworth’s suitable line to mind,—

“The flower of sweetest smell is shy and lowly.”

14th. As we had no time to lose if we were ever to gain our goal!—the villages of Patea,—we rose early and crossed the head of the Waikato river (which is the outlet of Rotoaira Lake) at 5.30. Winding round the base of Tongariro, over undulating ground, we halted at 7.30 to breakfast by the side of a mountain stream of very cold and pure water, which ran bounding and sparkling in the sun among the rocks. At 9 o’clock we recommenced our journey, and travelled steadily on. During the former part of this day, I met with several Botanical novelties:—e.g.—a very handsome full-flowered *Cyathodes* (*C. Colensoi*), a low bushy shrub of depressed growth, some plants bearing white and some red berries in profusion; this will become a garden flower:—the abnormal prostrate species of “Pines” *Dacrydium laxifolium* and *Podocarpus nivalis*, were also here, in many places completely matting the surface:—also, two or three species (or varieties) of *Gaultheria*,—one, in particular, having plenty of good edible fruit; another was very curious and

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down by the strong current beyond the one narrow landing place among the dense bushy vegetation on that side of the river.

1074 WC: This had several times happened: notably during my long overland journey in 1841, from Poverty Bay to the Bay of Islands; when, in a terrible gale and at night, in the mountainous trackless and deep forests between Waikare Lake and Ruatahuna, my guide deserted! at a time, too, when we were starving, as well as hemmed in by the flooded rivers: that was on New Year’s Day, 1842; a time to be ever remembered by me! See “Tasmanian Journal of Natural Science”, vol. II., p. 259.

interested me much,—it was plentiful and grew prostrate, having a racemose inflorescence, and baccate calyx which gave it a singular appearance as if double-fruited,—this is, I think, var. *e.* of Sir J. Hooker’s *G. rupestris*:—a distinct species of *Epacris* (*E. alpina*), was also here, but, unfortunately, it was not fully in flower:—in damp spots (but only in two places) two curious species of *Drosera* were found,—*D. binata* remarkably fine, and the much rarer one *D. Arcturi*, a plant of the Australian and Tasmanian mountains,—the only time I ever met with this latter species; together with a rather scarce Orchideous plant, *Prasophyllum nudum*;—and, in the thickets adjoining, by the sides of the mountain streams, *Phyllocladus alpinus*, and several species<sup>1075</sup> of *Aristotelia* with small leaves were noticed. A peculiar small *Restiaceous* plant, a species of *Calorophus*, was also obtained here in a [40] boggy spot;—I had found a similar plant several years before in bogs at Whangarei, and near Cape Maria van Diemen,—but in each locality only a little of it: of the *Cyperaceous* Order, I collected two new species of *Schænus* (*S. concinnus*, and *S. parviflorus*), *Carpha alpina*, *Isolepis Aucklandica*, and also several species of *Carex*, among them being a British species *C. stellulata*. In dry gravelly spots I also detected *Asperula perpusilla*, (which I had last year discovered in similar situations at the base of the Tararua range in Palliser Bay,) and the moss-like tufted *Raoulia australis* was not unfrequent. Many beautiful plants of the *Lichen* Order I also met with; prominent among them were several species of *Cladonia*, particularly *C. C. capitellata*, *aggregata*, *retipora*, and *cornucopioides*,—this last strongly reminding me of the pretty (never-to-be-forgotten) British species *C. bellidioides*, which, at first, I supposed it to be, from its bright vermillion-red globular tubercles springing from the edges of its tiny cups; *C. retipora*, often found in large tufts in undisturbed spots, is one of the most elegant of Lichens; its regular reticulated open structure is wonderful! A few curious Fungi, new to me, I also obtained; and in a still-water reach in a streamlet I came upon a large mass of that peculiar fresh-water Alga, *Batrachospermum moniliforme*,—the only place I ever found it in N.Z.

At 3 p.m. we crossed the sandy desert called Te Onetapu,—a most desolate weird-looking spot, about 2 miles wide where we crossed it,—a fit place for Macbeth’s witches! or Faustus’ Brocken scene! about it, too, the old Maoris have many peculiar stories and superstitious fears; some of which, I have no doubt, are agglutinated around a nucleus of reality. Here and there burnt logs lay, scattered and imbedded in the volcanic sand, as if where a fiery eruption from the neighbouring volcano had issued forth in times long past upon the then living forest; I noticed, also, that much of these anciently charred logs and pieces wore a highly polished and semi-glazed appearance, as if from the ever drifting sand. I was so struck with the appearance of some of the half-burnt timber, apparently so aged—or of old time, yet retaining all its vessels and ducts, that I collected a few specimens, and subsequently sent them to England for high microscopical investigation. On the edges of this lonely desert, a lovely *Gentiana* flourished in all its beauty, probably *G. pleurogynoides*, (another fine garden flower,) also *Celmisia spectabilis*, most luxuriant in gloriously fine tufts or tussocks, and with it grew a much smaller and different looking species of *Celmisia* (*C. glandulosa*), for the first time here found, and both species tolerably

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1075 WC: All now included under one species—*A. fruticosa*, by Sir Jos. Hooker, in the “Hand Book”.

plentiful. Very curiously also was the formation, or more correctly speaking,—the state in which the old land was left in many spots on the W. edges of this desert. Table-topped mounds, from 6 to 10 feet high, having perpendicular cliffy sides, each containing only a few perches of land, and rising like little islets separated from each other by the barren white sandy arms of the desert, were [41] common; their mounds, or islets, abounded in a peculiar vegetation, which I greatly wished to know more of,—but alas! I was sadly pressed for time; and I was already more than prudently overloaded for the unknown mountain journey before me. It was difficult, too, to climb up on them, although I did manage to get on two. Here I obtained an elegant dwarf *Dacrydium*, (a "Pine" tree, allied to the large *Rimu*, *Dacrydium cupressinum*,) rooting up a few old trees or specimens of a foot or 18 inches high, in full fruit! reminding me of the quaint yet symmetrical little trees so greatly prized by the Chinese for their gardens. This plant is allied to the large species (*D. Colensoi*) of the Northern<sup>1076</sup> forests, but, as I take it, is specifically distinct. Rain overtook us shortly after our crossing the desert, which we were sorry for, but there was no help for it, there being no kind of shelter nor water at hand, so we travelled on, in the pelting rain which was from the S. and in our faces, getting wet weary and dispirited, eagerly looking out for a fit halting place but finding none; to make matters worse, our guide more than once told us, he was "all at sea!" as to the proper course, because the rain hid the hills on all sides (and everything else) from his view, so that he could not see the land marks! We kept on—on—on, however, until 7 p.m. (dark), when finding water we were obliged to halt in a deep gulley by the side of a *Fagus* wood, where everything around for miles of fern or scrub had been very lately burnt off! We had been travelling through this black country for more than an hour, in hopes of seeing its end, but in vain! Here, where we were, we could not find a level spot on which to put up our tent, so, in the darkness and the rain, were obliged to dig away with our axes on the steep side of the hill before we could set it up! That night was a terrible one of wind and rain; insomuch that we expected every moment to be smothered in our half-pitched tent: few of us slept that night.

20th. Our most wretched night was followed by a dirty lowering morning, with furious wind and heavy rain, it was also bitterly cold. We were here caught in a southerly gale, in one of the worst spots possible in the whole N. Island of N.Z., and we could not help ourselves. To retrace our steps and go back to Taupo (over Te Onetapu desert) our guide flatly refused, and my natives joined him;—he saying, that high desert sand was now covered with snow, and that from the falling snow and sleet he could not tell the course,—which, perhaps, was really the case. From him we had the story of 70 men having been once lost at one time in attempting to cross that place in snowy weather. Murmurs, throughout this wretched long and dreary day, reached my ears,—of my having been the means of bringing on this weather! through my uprooting some small trees (*Dacrydiums*), and my crossing the desert without observing certain superstitious ceremonies, and my sacrilegiously eating some *Gaultheria* berries while crossing, [42] which the guide had detected!! &c., &c. The worst to me, was,—(1) that I could not get anything whatever to lay on the wet mud floor of my tent! nor fern, nor grass, nor leafy shrubs, were there to be found,—all had been destroyed by fire; the

very lower branches of the *Fagus* trees in the wood before us having been scorched: (2) that we had scarcely anything to eat: (3) that my specimens were being spoiled, which caused me to fret pretty considerably: and (4) that, at the rate it was then raining, when the gale should abate, the rivers we should have to cross would be unfordable for some days! As the day began so it closed,—no change whatever in the weather, save that, even about us at our considerably lower altitude, the rain was changed to sleet and snow! I shudder now, while writing, in thinking of that wretched time, though more than 80 years have since passed. Often enough did those highly suitable words at my favourite old poet Ossian, cross my memory:—"It is night, I am alone, forlorn on the hill of storms. The wind is heard on the mountain. The torrent pours down the rock. No hut receives me from the rain; forlorn on the hill of winds!" (*Songs of Selma*.) Their suitability being so much the more increased through the superstitious talk and fears of some of my natives, who insisted on it, that the sounds they heard among the fitful ravings of the blast among the trees, were not merely those of the trees creaking and of the denizens of that forests—parrots, owls, and wood-hens (*Ocydromus australis*), but of the justly irate Patupaiarehe (wood Nymphs or Fairies), or of the ghosts of the dead! just indeed as Ossian has it.—

Alas! the old fable-existences are no more,  
The fascinating race has emigrated.<sup>1077</sup>

21st. Sunday. Another wet and uncomfortable day. The wind, however, had lessened a little, and we could now manage to make up a fire,—which we could not do yesterday. Not really knowing how far we were from help, I could only allow two tea-cups of rice for all my natives (6 in number) for breakfast, and two for their dinner,—and for supper one cup of rice was all that could be spared, which, with a few scraps of bacon fat and a little salt, made a mess of pottage! At consultation this evening we agreed to start early in the morning; I privately requested Paora, and two other of my natives from Hawke's Bay whom I could trust, to keep a good watch over our Taupo guide, lest he should give us the slip; a trick I had been served more than once in former travelling. Indeed, to prevent this, on this occasion, I had determined, if needs be, to bind him till morning.

22nd. Up early this morning and left our wretched encampment at 6 o'clock. The frost was heavy and it was bitterly cold, insomuch that we could scarcely [43] fold up the tent. Unfortunately, however, the ice on the many pools and stream-lets we had to cross, after gaining the brow of our hill, was not thick enough to bear one's weight, and so we were obliged to go through it! crash! souse! into the cold water, of which my poor companions with their naked feet loudly complained. Here, in one of those watery hollows and partly submerged, (owing, no doubt, to the late rains,) grew a little shrubby plant, which I had not before seen, and never again found; I knew it to be allied to our *Geniostoma*, and it has proved to be a species of *Logania (L. depressa)*. It cost me a good wetting and cold shivering to get specimens. It was nearly 9.30 before we halted to breakfast, which we did on the banks of the river Moawhango, where we roasted our roast!—a few potatoes which we had carefully reserved from Saturday, my natives having then said, "they could

1077 WC: "Die alten Fabelwesen sind nicht mehr  
Das reizende Geschlecht ist ausgewandert."  
(Wallenstein.)

travel better on roasted potatoes than on rice.<sup>1078</sup> In this locality I was fortunate enough to find a few new plants, which pleased me much; among which were, a fine *Ranunculus* (*R. geraniifolius*), a single plant only, but a large tufted one affording several specimens; curiously enough, I never again met with this species. Here, in higher open grounds, grew that peculiar dwarf species of *Carmichaelia* (*C. nana*), just rising an inch or two above the soil! well do I remember breaking my tough old *Manuka* maori spear (used by me for many a year as a travelling staff) in attempting to lift a bit of it! A plant of *Liliaceæ*, also, grew here plentifully in one large spot, but unfortunately it had lately been burnt off, so that there were no perfect specimens to be had; however, I got a few good seeds, and a small root or two, as well as some poor specimens; and from those roots I subsequently obtained good flowering plants at the Station,—when I was delighted to find it to be a species of *Chrysobactron*—that glorious plant of Lord Auckland's group and Campbell's Island!—of which I had seen specimens with Sir Jos. Hooker, and also heard so much of from him and the other officers of the Antarctic Expedition in 1841. Gladly did I name it, (in sending specimens and seeds to England, to Sir W. Hooker,) *C. Hookeri*,—to keep company with the other species of that new genus which Sir Jos. Hooker had named after the Commander of that Expedition, *C. Rossii*:—in the "Hand Book", however, both have been referred to the older genus, *Anthericum*, from which they were scarcely generically distinct. The seeds of this plant sent to Kew grew and flowered [44] there. This plant with many others from the interior—among which were, *Ranunculus insignis*, *Stackhousia minima*, *Epilobium Billardierianum*, *Aciphylla Colensoi*, *Forstera Bidwillii*, *Wahlenbergia saxicola*, *Gentiana montana*, *Calceolaria repens*, *Veronica* sp., *Libertia micrantha*, *Callixene parviflora*, *Cordyline Banksii* and *C. indivisa*, and *Gymnostichum gracile*,—did exceedingly well in my garden at the Mission Station, nearly all of them flowering every year,—at the shaded S.E. end of my large house; but when that was burnt down in 1853, all, of course, went with it!

We travelled on pretty steadily all this long day until 8 p.m. without halting, when we threw ourselves down among the fern quite exhausted and spiritless;—not knowing how much further we had to go before we should reach this long-looked for Patea. Our guide, who had been lagging behind, although he had no load to carry, had sunk down some time before, declaring he could go no further, being faint through hunger! so, taking from him the course we were to steer (as far as he knew), we left him, believing that a good nap would refresh him. After a while, we arose from our fern couch, hunger-impelled, and having broken off the tops of the branches of the large and many-headed cabbage trees (*Cordyline australis*), which grew close by, and which the light of the moon revealed, we made a fire and roasted the

1078 WC: I have several times mentioned "rice": I was early led—taught by experience—to see the necessity of always carrying a few pounds with me on my long journeys. We had found the great benefit of it on our landing at "Deliverance Cove", (p. 2,) as from it we (all hands) had made our first hearty meal on our finding of water. The natives, however, always preferred potatoes to rice; their remarks thereon forcibly reminding me of what I had heard at Home in my boyhood from our Cornish Miners and Farm labourers, that they preferred the dark-brown and hard barley to the soft white wheaten bread; saying they could not work on this latter. I wonder how it is now with them, in these days of high civilization!

stalks of the young leaves, which, though both tough and bitter, served to allay our pangs. The *Cordyline* trees of these parts are the largest I have ever seen, they are not only high and many-branched, but bulky also in the trunk. I remember one, in which a native of Patea had made a house, or room, and fitted it with a door to keep his tools, baskets, &c., in; I went into it, and stood upright within it, the tree was living and healthy; I took down its exact girth, 20 ft. 2in. The whole route this day was very hilly and broken, with occasional heavy entangled forests, without the least vestige of any track; we having been obliged to keep much on the higher grounds so as to avoid the streams in the valleys, which were overflowing rapid and dangerous; fortunately for us the open country was much more grassy than we had hitherto found it. During the day I subsisted on a raw potatoe (which I kept nibbling) and a few *Gaultheria* berries;—in addition thereto following out the Maori plan of "hauling in the slack" (in nautical language), or, in other words, of tightening up my travelling belt; which I have always found in times of severe hunger to be of great service,—although it makes it dangerous for stooping low. That night we all slept just as we were in the fern around the fire.

23rd. Very early this morning our "guide", following our track, came up to us before we were well awake, and finding from him that we were, at last! really near the Patea villages, I, after he had rested awhile and eaten some roasted cabbage-tree leaf-stalks, sent him on to the nearest village, to inform the natives of our arrival and hungry state. A long night's sound sleep had done him [45] a deal of good; he appearing a different man altogether, although he had had nothing to eat, and had passed the night without fire. At 6 a.m. we, also, managed to hobble after him, stiff enough! following his track; and by 7.30 we were loudly welcomed into a little outlying plantation village of only 2 huts, but where we found a feast awaiting us, in baskets of hot and smoking cooked potatoes! to which we all did justice. Breakfast and prayers over, we had to resume our journey, to reach Matuku, the principal village of these parts, where the chief, Te Kaipou, and most of his tribe resided; a messenger having early been sent thither from this village to apprise him of our approach. Travelling along over a beaten track for 3 or 4 miles we reached Matuku, but found the Chief and most of his people absent,—some at their distant and scattered cultivations here and there in the forests, and some a pig-hunting. In our way to Matuku we crossed the river Moawhango without seeing it! for it ran at a great depth below us in the earth; the width of the rift or cleft in the stony soil was only at top about 10–12 feet, and across this were laid the trunks of two small trees, over which the natives of the place ran with naked feet like birds! I did not like it, but there was no help for it; I almost thought I could have jumped over it; but there was no room to take a run for the spring. The natives told me that the fissure continued for a long way, and that it was pretty uniform in width (though very likely this was its narrowest), and that a small canoe could pass through on the river. The sides seemed, as far as I could see down them pretty steep; I could not, however, see the water below; and I had no time to spare in closely examining it.<sup>1079</sup> I noticed *Stellaria parviflora* here growing in large quantities in dry spots. The

1079 WC: Some years after in travelling this way, I found the natives had made a tolerable rustic bridge across, some 6 feet wide, and having a shaky parapet fence, the floor being strewn with manuka faggots; this was done for their one horse.

village of Matuku is picturesquely situated on the ridge and summit of a very high hill, rising abruptly in the midst of these immense primeval forests which surround it for miles on every side. One great disadvantage was its want of good water, there being none within a mile, at least, and that at the foot of a long hill in the forest. True, they had little pits dug near at the base of a spur, but the water was little in quantity, and not drinkable, from having some salt in it, that deposited its efflorescence on the clay around. The view from this place was very extensive solemn and grand, overlooking miles of forests, with the eternal mountains uprearing their heads and peaks around. On the E. and S. was the great Ruahine range with the many isolated spurs and ridges of its W<sup>n</sup>. flank, here rising abruptly, and looking like a formidable barrier to our progress that way! On the W. was Taranaki (Mount Egmont), and on the N.W. Paratetaitonga, Ruapehu, and Tongariro,—and still further N. was the Kaimanawa range; of all these, Paratetaitonga and Ruapehu were now [46] well-covered with snow. The natives of the place pointed out to me the W. peaks on the Ruahine, to which we had advanced 2 years before.—

— “Once again  
Do I behold these steep and lofty cliffs,  
That on a wild secluded scene impress  
Thoughts of more deep seclusion.”

I should not, however, have recognised them; indeed the whole appearance of that range was strangely different from what it is on the E. side; one huge table-topped spur, projecting towards the N., and uprearing its dark and sharp outline against the sky, interested me greatly; it seemed so much like a built-up rampart; the natives call it Te Papaki-a-kuataa; of this very peculiar place more anon.

Paora, my companion also on that occasion, was now “in clover” here among his mother’s relatives; they had found the scrap he had written on bark, and left at a village some 3–4 miles nearer than this to the Ruahine range, but it was long (more than a year) before they had got it decyphered and read to them! Still it was (as we now found) of service. It was evening before the Chief and the main body of his people arrived; and we spent a large portion of the night in deep conversation. Found them very ignorant of everything foreign (as was to be expected), but most pleasingly simple and willing to be taught. They were all dressed in true Maori costume, in mats of various kinds of their own manufacture, some of which were made from the *Toii* (*Cordyline indivisa*); without a single article of European clothing among them.

From this place and its neighbourhood I obtained many interesting plants<sup>1080</sup> on several subsequent visits, but on this occasion none, for we had still that altogether new and unknown journey before us—to climb and cross the Ruahine range, and I had already concluded to leave here on our return to-morrow, having (unfortunately) arranged, before I left the Station, to be at Waipukurau on the 1st of March, to marry 9 young Christian couples, who would assemble there with their relatives and friends from several places round about for that purpose; their neat new chapel which had been some time in hand, was also to be finished for that occasion;<sup>1081</sup> and we had already spent more than a

fortnight in reaching this place by the “round-about-way” of Taupo. I knew, too, that my natives would be sure to leave this place heavily loaded with potatoes and pork as food for our homeward journey. To their great credit be it told, that though they had recently endured so much and needed rest, they all agreed to recommence [47] our toil to-morrow, rather than disappoint the folks at Waipukurau; Paora arranging to re-visit his relatives here on his own account before long.—

24th. Very busy all this morning with the natives of this place, who were much troubled at our leaving them so soon, and did all they could to keep us, in which the appearance of the weather helped them not a little, for the Ruahine range was completely enveloped in fogs and clouds, which the natives asserted was a sure sign of heavy rain or snow being about to fall. I too, I confess, was very unwilling to leave—but go we must, duty called. We promised to visit them again next summer (which we did). Our Taupo guide, who was quite at home—through some distant relationship—would probably remain a month or two, or until spring.

Some years after, while staying at this village, I noticed a curious feature in Natural History, which I may mention here. On that occasion I had gone thither by another route,—(*Ngaruroro river and Kuripapango ford*,)—it was early summer (October), and snow had fallen pretty heavily, yet quietly, during the night, and in the morning the whole village was a few inches deep in snow, while the great mountain range rising close before me was looking sublime. (I copy from my Journal.) “Close to the village, and even within its fence, were several very large Kowhai trees (*Edwardsia grandiflora*<sup>1082</sup>), these were covered with their golden flowers, and mostly without leaves. The sun was shining brightly, and the parrots flocked screaming from the forests around to the *Edwardsia* blossoms; it was a strange sight to see them, how deftly they managed to go out to the end of a long lithe branch, (preferring to walk parrot-fashion!) and there swinging, back downwards, lick out the honey with their big tongues, without injuring the young fruit! ... For seeing but very few petals falling (and those only *vexillæ*), I sent some of the boys to climb the trees and bring me several marked flowering branches, which had been visited by the parrots. I found, that all of the fully expanded flowers had had the upper part of their calyces torn open, and the uppermost petal (*vexillum*) torn out; this the parrots had done to get at the honey. As the flowers are produced in large thick bunches, some are necessarily twisted or turned upside down; still it was always that peculiar petal and that part of the calyx (though often in such cases undermost) which had been torn away. Through this no injury was done to the young enclosed fruit, which would in all probability have been the case if any of the other petals had been bitten off. It cannot be said, that it is owing to the *vexillum* being the largest petal (as it is in many papilionaceous flowers) that it is thus laid hold of and torn away by the parrot, such *not* being the case in this genus; for the long fruit runs down through the two carinated lowermost petals, that are often quite 2 in. long, and is further protected by the two side ones [48] (*alæ*), which four, from their being closely imbricated together, form a much larger and firmer hold for the bird’s beak. Further, as the N.Z. Parrot (*Nestor meridionalis*) is a large bird with a huge bill, and as the flowers are always produced on the tips of the small branches, which bend and

1080 WC: Of which may be here mentioned, *Brachycome odorata*; *Olea lanceolata*, and another undescribed species of *Olea* having hairy petioles; *Calceolaria repens*; *Carex dissita*; *Agrostis parviflora* and *A. pilosa*; *Marchantia nitida*, &c.

1081 WC: See Note E., Appendix.

1082 WC: *Sophora tetraptera*, of “Hand Book”.

play about under the weight of its body,—not to mention the high winds which generally prevail in those elevated and open regions,—one cannot but suppose it to be no easy matter for the bird to get a bite at them at all, so as to make a proper opening whereby to insert its thick tongue, and lick out the sweet contents without injuring the young immature fruit; especially when we further consider, that the common practice of the parrot is to take up in its claws whatever it wishes to discuss. Of all the flowers I examined, (and I scrutinized a great many during the 2–3 days of snow,) only the upper part of the calyx and corolla had been torn, and in none was the young fruit wanting; nor did I notice any bunches which had had their flowers wholly torn off. What with the glistening snow, the sun shining, and the golden blossoms of those trees,—the numerous parrots diligently and fearlessly at work so close to the village yet often screaming,—the other birds, Tuiis (*Prosthemadera Novae Zealandiae*), and Korimakos (*Anthornis melanura*), singing melodiously snugly ensconced in their leafy bowers, having earlier had their morning meal,—with now and then the large flakes of feathery snow falling thickly and silently around,—it was altogether a peculiar and interesting sight; and natural though it was it seemed un-natural, and by no means pleasing.”

Another peculiarity, which I noticed here on this occasion, and which struck me forcibly, was, the apparent insensibility of these mountaineer natives to cold. (I again quote from my journal:)—“Past another wretchedly cold day, in which I have scarcely known warmth—even in a small degree. The natives, however, of the place, appear to be almost insensible to cold, the majority of them being but poorly clad, each in a single loose shoulder mat,—and yet they go sauntering about the village in the snow, barefooted and barelegged and barebreasted! of course; or sit down talking together in an open shed, with scarcely any fire, having half of their bodies uncovered. In this respect they differ greatly from the New Zealanders in general (the Lowlanders), who are mostly very impatient of cold.—I, also, noticed some little children, who, leaving their garments (each having only a loose harsh mat), in their huts, came out and frolicked naked about the village! regardless of the snow and sleet; nor did they return to their houses and garments, until I had, a second time, ordered them to do so.” Another remark I copy from my Journal of that date:—“Poor creatures! at this season they were all living on fern root, which the children were incessantly roasting and hammering; yet they were all very healthy. Indeed, the great difference in this respect between the low-lying and sea-coast villages (which I had lately visited) and those of this mountainous district, was really surprising; there, in every place, some one had died since my last visit (some 6 months [49] before), while *here*, during two years no one had paid the debt of nature. No doubt this is partly to be attributed to the purity of the mountain air, but not wholly so.”—Cook’s early statement, of their being a remarkably healthy race, I have often proved to be true; would that the introduction of European habits, and of “civilization”, had not deprived them of that inestimable blessing!

We left Matuku at noon, several of the natives with their chief Te Kaipou, going with us to Te Awarua,—the furthest outlying E. village of Patea, to which place Paora and his companion Mawhatu had formerly come. Our journey to Te Awarua was nearly a continual descent of a few miles, over a good beaten Maori track. On arriving at the immediate bank of the Rangitikei river, which lay between us and the mountain range, and which we had to cross, I found I had to

descend the perpendicular cliff of nearly 300 feet, the worst feature being that one could *not see one's way!* for at the edge of the precipice one had to turn round, and holding on to the grass and fern drop over somewhere, and so descend sailor-fashion! For some time I did not at all relish it, but finding there was no help for it,—and the natives of the place, men women and children, all did so, and then got across the river in safety, (as I could see from the heights,) I consented to follow,—disliking it the more as I went on; for the sheer height not only made me giddy, but here and there in the descent friendly plants to lay hold on failed, or had been half-pulled up in long use, and in their stead old flax leaves and strips of bark had been tied to shaky shrubs, and other rough makeshift devices of pegs and sticks had been also resorted to, and these, as I proved, were in many places old and rotten, and not to be trusted to:<sup>1083</sup> however, by degrees, the natives very kindly helping me, I got safely to the bottom in the bed of the river.

The Rangitikei river here was tolerably wide, and not very deep; I managed to cross it by help of the natives without great difficulty. In this place, as in many others in its course further down (as I have proved for many a weary mile!) it runs between high cliffs; the village of Te Awarua being on its E. side, on the lowermost slope of the Ruahine range; this is one of the principal potatoe [50] cultivations of this tribe, the soil being rich and well-sheltered by the forest around.<sup>1084</sup> This place, however, was of far more importance in the olden time, as the decaying remains of its old fortifications still shewed;—when it was in its glory as a *pa* (fortified village), it was taken by the enemy, who carried it by storm. And here, on a rock in the river, which was shown me, a near relation of our well-known present Hawke’s Bay Chief Renata te Kawepo, (whom I had left behind at the Mission Station as a Teacher,) was killed on that occasion, in endeavouring to escape from the foe: Renata, himself being also closely related to this tribe.<sup>1085</sup> Having partaken

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1083 WC: I managed here better afterwards, by having new flax leaves and new strips of bark fastened to go up and down by. On one visit after heavy rain, when it was very slippery, and some portion of the earth from the cliff had fallen, I was carried down like a baby, on a native’s back; as I dared not trust to my own legs! This however was by no means the first time of my being so borne by them over dangerous and slippery places; not a few deep dark rivers having high banks, densely bushy, and the vegetation hanging down into the river, with a tree felled or placed to cross over on,—old, denuded of its bark, and slippery with vegetable fungoid slime,—have I had to cross, there being no other known way; when, after trying it without boots,—and also by sitting on it saddle fashion,—I have been obliged to give in, and to have recourse to a native bearer; also on the slimy edges of some cataracts;—and he never missed his footing. On such occasions I invariably used to shut my eyes during the whole time of transit, to keep myself and him the more steady.

1084 WC: See Note F., Appendix.

1085 WC: In visiting these localities in after years I was surprised to find such an extensive and formidable growth of English Docks (*Rumex obtusifolius*) 4–5 feet high, and densely thick; so that in some places I could scarcely make my way through them. On enquiry I found, when some of these people had visited Whanganui, to sell their pigs, they had purchased from a white man there some seed, which they were told was tobacco seed! in their ignorance they took their treasure back with them, and carefully sowed it in some of their best soil, which they also had prepared by digging; and lo! the crop proved to be this horrid Dock,—which, seeding largely, was carried down by the rivers and filled the country. The same iniquitous trick had also been played with the natives of Poverty Bay, so early as 1837; when, at their pressing request, I visited some young plants they had

of another excellent meal, (which some of the hospitable people who had purposely preceded us early from Matuku, had kindly and promptly prepared for us,) and my natives loading themselves with a good supply of the choicest potatoes, we left this place and kind people, and set our faces in earnest towards scaling the Ruahine! The principal chief of Patea, Te Kaipou, and the resident old man of this outlying village whose name was Pirere, also going with us, to put us the better into the way, or course, to Hawke's Bay; although with them it was mere guess,—only they, with some of their people, had been pig-hunting on many occasions for a few miles in that direction. We travelled on till sunset constantly ascending, when we halted by the side of a small wood; our course, at first, lay through fern and brushwood without the faintest track. One abrupt and isolated stony hill, or young mountain, which we had to cross, called Mokai-patea, was completely covered with the species of *Coriaria* I saw near Titiokura, it always preserved its low spreading habit, by the natives it is called *Tutupapa*. For the last 3 hours of our journey we were occupied in scrambling and crawling on all-fours up a nasty narrow stony and steep mountain watercourse full of obstructions,—uprooted trees and shrubs lying across it brought down by the winter torrents, slippery stones, deep pools, &c., &c.,—indeed, in some spots it was impossible to pass, when we had to try the banks which were just as bad. The Chief however had assured us that it was the only practicable way! and he and his retainer were also with us as guides. When we had halted for the night and rested a while, my natives (who [51] had suffered considerably in the watercourse owing to their heavy loads of potatoes in addition to other baggage,) looked seriously at each other and earnestly debated the possibility of our ever getting over the range before us. One thing we all agreed to, not to try that watercourse again. We spent the night together, the Chief and the old man being with us. I should not omit to mention that this old man was the father of 12 children by one wife, all living and remarkably healthy; I saw them all, and took down their names, they were a very fine family; I often saw them here afterwards. The old man himself being among the first company who were Baptized of this people, when he took the name of Moses, and having learned to read, &c., became the Teacher of his little village. I have not, however, yet done with our mountain watercourse; for in it, and only at one spot on its N. bank, I found a small patch of a second species of *Calceolaria*,<sup>1086</sup> which (judging from its smaller leaves and the withered remains of its flowering stems) was new to me. So, in after years, I again sought it here and found it in flower, and also took away roots of it for my garden at the Mission Station. This plant is the rare *C. repens*, and this, at present, is its only habitat.<sup>1087</sup>

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“O'er pathless rocks,  
Through beds of matted fern and tangled thickets,  
Forcing my way, I came to one dear nook,  
Unvisited.”

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raised from seed, fenced in and tabooed, believing them to be tobacco!!

1086 WC: The only other N.Z. species of *Calceolaria* (*C. Sinclairii*) was also originally discovered by me at the E. Cape, in 1841; and, subsequently by Dr. Sinclair at “Waihaki, in 1842”. (Vide, Hooker's *Icones Plantarum*, tab. 561.)

1087 WC: It has since, however, been found in one spot on the same flank of the range, but lower down and much nearer to the W. Coast.

25th. Rose very early and recommenced our journey; our two kind native friends returning to their homes. Our route at first, lay directly up a very steep hill,—a long outlying spur of the mountain,—we had much difficulty in surmounting it, but we succeeded, and then the fog came on so densely that we could hardly see a yard before us! so, after wandering about for some time, and fearing that some of our party might go astray (which one did!) we halted to breakfast, and to await the clearing up of the fog. On two or three rare occasions, while travelling among the mountains, I have met with this species of dense dry fog,—so widely different from the fogs of the low lands. Such is not merely (as the poet has it),—

“Wreath'd dun around, in deeper circles still  
Successive closing, sits the general fog  
Unbounded o'er the world; and mingling thick  
A formless grey confusion covers all.”—

But the dense and dark strangely-shaped solemn rolling and gliding clouds of fog, often in separate masses, come fast on towards you, as if they were really [52] enveloping something more substantial,—impelled by some secret power (not by wind for all is still and calm), and a weird-like feeling or thrill comes over one, as if one must really get out of their way: I know I have so felt it, particularly when alone! Resuming our journey we travelled on all day, up and down very precipitous and broken cliffs and ridges, often stumbling over old fallen trees, and into holes of uprooted ones, hidden in the thick undergrowth,—and sometimes passing along on the very edges of extensive landslips, down which it was fearful to look. We did not stop to rest nor cease toiling until sometime after sunset,—when we gave it up, as it was getting dark! We had hoped to reach the more open land on, or near, the summit before sundown, which we had been strongly advised to do, but had failed. At this time we were very much entangled among the sides of the deep and thick scrub in the low *Fagus* forests, on the precipitous western mountain, sinking deep at almost every step among what seemed to be layers (*stratum super stratum*) of anciently fallen trees, which were all more or less rotten and lying across each other, and hidden under the long *Astelia* and “Cutting-Grass” foliage; so that, sometimes, my natives as well as myself should sink down so far-crashing through the fallen rotten timber, and yet without touching the earth!—that we could not extricate ourselves without assistance. Language fails me properly, to depict the toilsomeness and entanglement of this day, especially that towards night, in that never-to-be-forgotten *Fagus* forest! A very long and narrow leaved *Astelia* was the common plant here, together with several species of the *Coprosma* genus,—slender slim shrubs growing under the *Fagus* among those fallen trees. When we finally halted, we all just remained as we were until daylight! no one thought of a tent (which could not be set up), or of cooking, of supper, or of fire; and there was no water there! Neither was there a spot at hand where one could lay himself down at full length! We mostly sat drawn up throughout that night; no one spoke to another, and tobacco was not then in vogue among us; one native did not even undo his backload from his shoulders! owing to his being so greatly exhausted, where he first sat, or fell, there he went to sleep, and so remained till morning with his load on his back! Fortunately for us the night was a mild one and without wind; so, being greatly fatigued, we all slept pretty well in our sub-alpine bivouac till morning. Keats' opening stanzas in his *Hyperion*, were more than once thought of by me:—

"Deep in the shade———  
 Sat greyhair'd Saturn, quiet as a stone,  
 Still as the silence round about his lair;  
 Forest on forest hung about his head  
 Like cloud on cloud. *No stir of air was there.*  
 Not so much life as on a summer's day  
 Robs not one light seed from the feather'd grass,  
 But where the dead leaf fell, there did it rest." [53]

The next summer in revisiting Patea, I learned, that we had got into our sad trouble in this particular and superstitiously dreaded place, through Paora, who was leading, having taken the wrong turn,—leaving abruptly the high stony ridge we were on and turning to the left into that old half-rotten forest, instead of to the right! which spot bore a bad legendary name among the natives of Patea. And I had left it to him to take instructions from the Chief and the old mountaineer as to our course up the mountain. The natives of Matuku,—who had kept looking out with their keen eyes for our night fire on the open tops, and not seeing it,—knew we had gone astray, and guessed pretty well where we were. Our having spent a quiet night therein, unmolested by unnatural night visitants! proved however to be of no small service in our behalf with the Patea natives. Strange to say, that only a little way above to the right, from where we passed that doleful night, was one of the best halting-places in the whole forest on the West side, and where I afterwards (in following years) spent several single nights,—and indeed, on one occasion, a whole Sunday and two nights very agreeably. For, on my very next visit, finding that we could easily manage to make a kind of snow well there, from the form and nature of the ground and the stones that lay about, (exposed from under the surface through the uprooting and toppling over of a large tree,) we did so, planting snow-hole moss (a species of sphagnum) also in it! and, on subsequent visits, I never failed to find a supply of good water,—and, also, close at hand, dry firewood—a thing not always to be obtained in those high *Fagus* forests,—where all dead wood, both large and small, becomes as it were waterlogged and sappy from the snow. Several parties of natives, including the Chief of Patea himself, also stopped a night at "my well," as they called it,—in going to and fro from Patea to the Mission Station, after I had cleared the track, &c.,—but, on their getting horses they all ceased to travel this way.<sup>1088</sup>

On one journey back from Patea to Hawke's Bay, I happened to see a *Kiwi* (*Apteryx* sp.) in an open place in these woods,—the only time I ever saw one wild and free. It did not see me, and so, I, being hidden from it, watched its movements for some time; it ran much faster than I had supposed it would do, and its striding gait strongly reminded me of a hen running after a moth, or winged insect.

Two or three remarkable incidents of this day's journey I must now briefly notice. During the afternoon we suddenly came upon the remains of a skeleton of a young man, partly suspended about 2 feet above the ground among some thick growing *Coprosma* bushes: this, we afterwards found to be that of a young man of Patea, who was one of a bird-catching party that had been overtaken by a snowstorm, when this man was lost in the snow! The sight of this skeleton, now [54] pretty well bleached, roused us not a little, and caused us to redouble our exertions to reach the summit. Near evening, in passing along the edge of a steep stony ridge in the wood, at a considerable altitude, I saw a

small plant in flower springing sparsely from among the crevices of the rock beneath me,—on getting a specimen I found it to be a *Forstera*—if not *F. sedifolia* itself! the very plant of all others in N.Z. my heart had long been set on, through hearing my dear friend Allan Cunningham (who had longed to see it) talk so much about it,—and from its not having been detected since Forster's visit when here with Cook;—as well as from the fact, that it was a very curious plant in the disposition of its flowering organs, and one that had given some trouble to Botanists; the younger Linnæus had selected it to bear its discoverer's name, and Lindley, in his "Natural System of Botany", had to place the genus, containing only one species, with just two other genera in a separate ORDER—STYLIDEÆ. I welcomed it in Cunningham's name, and secured half a dozen good specimens. Curiously enough I have never since met with this plant in any other locality; in subsequent years, however, I got several good specimens from this same place. Here, in the outskirts of the forest were small trees of that musky-smelling plant, I had originally discovered in the forests in 'the interior of the Bay of Plenty in 1843,—together with an allied species equally odoriferous,—*Olearia dentata*, and *O. ilicifolia*; and peering out, along the upper edges of the landslips, were *Coriaria angustissima*, *Ligusticum aromaticum*, and the pretty large Blue-bell *Wahlenbergia saxicola*. I also observed in several spots, mostly on rocks in the shady forests, delightful and fine specimens of *Stereocaulon ramulosum*,—some plants forming quite a little bush, and looking charming! A glaucous *Veronica*, a small shrub, I detected on a stony ridge in an open saddle between two hills, fortunately it was both in flower and in fruit; I never found but this one plant, and being the only glaucous species of the genus it looked very peculiar. I visited this one shrub subsequently on 2–3 occasions, and always brought away specimens: Sir J. Hooker has named it *V. Colensoi*. Towards evening my dog caught a fine fat Weka, in its crop were the fruits of several species of *Panax*,—probably *P. simplex*, *P. Colensoi*, and *P. Sinclairii*, which grow in these forests. The Beech trees (*Fagus Solandri*) of the more exposed parts of those alpine woods were of very peculiar growth,—low, depressed, and gnarled, with spreading thick leafy branches, often interlacing and desperately tough, which greatly increased our difficulty in getting through them. Several species of the *Coprosma* genus here abounded,—particularly *C. C. acutifolia*, *parviflora*, *cuneata*, *microcarpa*, and *linariifolia*, and also *fætidissima* the species which Forster first found, and which from its very strong smell caused him to give the genus its appropriate name, this last species however was more abundant lower down in the more open forests of the large-leaved *Fagus*—*F. ?fusca*. A new species of *Myrsine* (*M. montana*) [55] I also found here, it is a small shrub closely resembling *M. divaricata*<sup>1089</sup> of A. Cunningham. Another species or variety of *Dracophyllum* (*D. Urvilleanum*, var. *d*), and a stout shrubby species of *Senecio* (*S. eleagnifolius*), and a much smaller species, *S. Bidwillii*, I also detected here. On an open exposed ridge I fell in with several plants of a species of *Dacrydium*, 12–14 feet high, growing together and almost in a row, these bore a very peculiar appearance from their whitish bark being densely covered with foliaceous Lichens (mostly *Parmelia*), and

1089 WC: Sir J. Hooker, in the "Hand Book" speaks of this species as "a small very straggling twiggy branched bush"; but I have generally found it to be a tall shrub, or even small slender tree, 12–15 ft. high, with long drooping branches: it is a much larger species than *M. montana*.

their bearing two kinds of leaves; the plant, moreover, was not common; I always visited these trees whenever I passed this way, but was never successful in getting good fruiting specimens. I also noticed several small trees of *Libocedrus Bidwillii*, growing thickly together. One solitary tree, about 20 feet high, of this same species, I afterwards found much lower down in open ground, but was also with this disappointed, although I purposely visited it at different times of the year. There is scarcely any similarity in general appearance between this plant and the elegant plumose *L. Doniana* of the N. That beautiful species of *Cordyline* (*C. Banksii*) with its long leaves (5–7 feet) and white berries grew here in the drier stony woods,—and with it, plentifully, its closely allied congener, a graceful red-flowered *Astelia*,<sup>1090</sup> while the still more imposing plant, *Cordyline indivisa*, flourished a little lower down and mostly on the edges of thickets.—

Another curious incident occurred, in my travelling through these forests some years after this: we had just emerged from a heavy belt of forest, and were sitting down in the open outside in the sun, resting awhile before we proceeded; one of my baggage bearers, who had a short hard-wood spear, kept poking it into the earth, when suddenly he felt something under his spear different from a root or wood, he proceeded to disinter it, and there, under at least a foot of soil, was a very handsome though small green-stone axe! its bevelled edge was very regular and quite perfect. I might have had it but I did not then care about it.—

A Fern, a species of *Hymenophyllum*, which I found epiphytically on a tree at the entrance of a thicket, greatly pleased me, as I had not met with it before. It grew in great plenty on that one tree, and I brought away from it on several occasions many specimens. Sir J. Hooker has, I find, placed it under the old [56] and well-known fern *H. unilaterale*,<sup>1091</sup> but, to me, it appears wonderfully distinct. I have never met with this fern anywhere else

26th. We rose this morning from our uncomfortable beds—or lairs without any dressing! and stiff and hungry we started from our bivouac with a tolerably good will before 6 o'clock. The morning, however, was intolerably cold, and the fog very heavy—a true Scotch mist this time!—settling on the thickly leaved shrubs, through which we had to force our way, and so wetting us to the skin. Do what we would we could not get warm, as we could not get along fast enough, and the sun was still on the other side of the range. Onwards and upwards we toiled in silence for four hours, until we reached our well-known E. peak on the summit—*Te Atua-o-mahuru!*<sup>1092</sup> (seen prominently from Hawke's

1090 WC: I don't see where Sir J. Hooker has placed this species in his "Hand Book," unless it be under *Astelia Cunninghamii*; but I never saw it epiphytical, and I think it will prove to be distinct.

1091 WC: Mr. Baker, I see, in his last edition of "Synopsis Filicum," has united *H. unilaterale* (and several other species) with *H. Tunbridgense*; which species already had included within it not a few of our N.Z. *Hymenophylæ* as varieties: to this, however, I cannot agree. No two species of ferns (in my opinion) are more truly distinct than the British species, *H. Tunbridgense* (including our N.Z. species, *H. Tunbridgense*, and its "varieties"—*cypressiforme*, *Lab.*, and—*revolutum*, *Col.*) with its single axillary and serrated involucre sunk in its frond, and this fern from Ruahine (*H. intermedium*, *mihi*, *M.S.*,) with its many free and pedicelled entire involucres. But I hope for an entire and natural re-arrangement of our N.Z. *Hymenophylæ* ere long.

1092 WC: See Note B., Appendix.

Bay,) whence the extensive prospect to the East was again, as on the former occasion, obscured. This culminating peak of this part of the range has since been better known to the Maoris by the name of *Te Taumata-a-Neho* (i.e. Colenso's summit, or pass), from the fact of my having both crossed it and made a track that way into the interior, as well as from the circumstance of our always halting there, going and returning, and offering up both prayer and praise. Although I have crossed this range several times, travelling both E. and W., only on one occasion had I a clear view of the whole E. side and extensive horizon,—recalling forcibly to memory the old familiar view from the Land's-end in England, with the Scilly Isles in the distance, and Sir H. Davy's expressive lines on that place:—

————— "far beyond,  
Where the broad ocean mingles with the sky,  
Are seen the cloud-like islands, grey in mists."—

The distant prospect being generally dull and obscured through misty exhalations arising from the low-lands and swamps and forests beneath; and yet the mountains, seen from below, and being projected in bold relief against the sky, appear commonly clear and well-defined,—"robed in their azure hue."

A curious little event happened this morning, when near the summit: I was ahead of my party with my dog, and we were crossing a narrow stony ridge, a kind of saddle between two peaks, when striking my foot against a thick withered tussock of grass, two rats started out! no doubt rudely awakened out [57] of their slumbers. My dog caught one and killed it, the other got off; they were the common English rat—here at this altitude on those barren peaks!<sup>1093</sup> Another highly curious circumstance is worth mentioning. In ascending early this morning through an open part of the forest on the S. slope of a spur where the Beech trees (*Fagus Solandri*) were tall and young, growing up thickly and straight like saplings or poplars, we suddenly came on a lot which were abruptly bent down to the earth in a kind of a row from about 5–6 feet above the ground,—looking like a long green half-roof of a house, or the roof of a "lean-to"! they were all living, thickly branched and very leafy, and their tops were all again ascending from the earth like very young trees. Tired hungry and thirsty as we were, we all stood in amazement at this sight, and myself and natives with their backloads walked under this living sloping roof for several yards, only stooping our heads a little. We found, on examination, that all those trees had had their trunks half-broken—twisted splintered and bruised—at the angle of inclination, and the conclusion we came to was, that it was done through the heavy mass of snow which had been deposited on their thick tops and branches becoming frozen together, and so in a gale bringing them down into the position in which we found them. It was truly a curious living sight. I saw them again some two years after, and again walked under them, when they were much the same, but not so regular nor so clear underneath.—

To return:—Here on the open sunny summits, we were greatly in want of water, which we had not tasted since noon yesterday; we had diligently searched about for it in all the hollows and snow-runs on the table-tops as we came

1093 WC: Dr. Horsfield's account of the peculiar little animal *Madaus meliceps*, only found on the tops of the mountains of Java,—and Sir C. Lyell's remark thereon,—may be profitably consulted here. (Lyell's Principles of Geology, 12th Ed., vol. II., p. 362.)

along, but in vain! a few drops from a bunch of wet moss in a hole was all I could obtain, but that was precious. After resting a while on the crest of the mountain, and offering up our usual thanksgiving,—for

—“On mountains and in vales he taught  
To adore the Invisible, and HIM alone.”—

we determined to push on to our old three-nights encampment at Te Wai-o-kongenge in the forest on the E. side, where we knew we should find water; so continuing our journey we reached that place by 1 p.m.; all hands quite weary and faint for want of water. To add to our distress we could not find any at our old pool and spring! which were both dry, but by searching further down the mountain's side we luckily found some. The welcome shout of “Water!” by the lucky finder, after the first dispiriting announcement of none! went through us like an electric thrill, and having drank and drank again we proceeded to get our breakfast—which included, also, both supper and dinner of the preceding day. Feeling much too tired and listless to look about me while our meal was preparing, I sat and mused, with my back against a tree,—for once a kind of Lotos-eater!—enjoying [58]

—“the wild odour of the forest flowers  
The music of the living grass and air,  
The emerald light of leaf-entangled beams—  
Which drowns the sense.”—

I should not omit to mention, that on my way down the mountain from the summit, I discovered a plant which I believed to be a new species of *Podocarpus*, and therefore named it *P. Cunninghamii*, (after my dear old friend and early Botanist in N.Z. Allan Cunningham, who first described *P. Totara*)—its leaves and male amentæ with the squamulae at their bases were very much larger than those of *P. Totara*, and the amentæ were also on long peduncles; its bark, too, was semi-papery, more like that of some large specimens of *Fuchsia excorticata*, and not at all resembling the bark of *P. Totara*. I subsequently found a small tree of it again in this same forest, but, as before, only having male flowers. I have little doubt of its being a distinct species. The natives call it *Totara-kiri-kotukutuku*.<sup>1094</sup> We resumed our journey at 2 p.m., not daring to tarry; gained the bed of the river by 5, and travelled sturdily on until 7 p.m., (for the last hour in comparative darkness,) when we halted in the shingly sides of the river's bed;—rejoicing that our difficulties were now over, and that we had really succeeded at last in crossing the Ruahine!—

27th. Last night we all slept soundly, lulled by the murmuring stream: for

—“this ravine  
Was now invested with fair flowers and herbs,  
And haunted by sweet airs and sounds, which flow  
Among the woods and waters. FARE YE WELL!”

Rose early this morning, breakfasted by daylight and started. All agreeing to travel steadily on all day without halting. We did so, rather moodily, and just managed to get quit of the river and the woods by daylight, still keeping on for an hour and half after sunset, when we halted on the N.

1094 WC: I find this Maori name is given in the “Hand Book” Index to *Libocedrus Doniana*, but I scarcely think any old Native would call a *Libocedrus* a *Totara*, the foliage in the two genera being so very different. The maori name for it, (like many other of their proper names,) is fit and expressive; lit.—*Fuchsia*-barked *Totara*.

edge of Te Ruataniwha plain, well tired and worn with our very long day's march, in which we had waded the main river more than a 100 times.

28th, Sunday. This we made a day of rest, as we greatly needed it. Everything very quiet around. Had two meals today of boiled rice. Natives slept the greater part of the day leaving me to my meditations. None of us knowing anything of the country between this place and Waipukurau, and there not being any track hence to that village, we determined to-morrow to keep in the stony bed of the river (Waipawa), until we should strike the maori track<sup>1095</sup> leading from Patangata to that place,—which we knew.

March 1st. Left at 6 a.m., all in good spirits; by 11 o'clock we had [59] gained the said pathway, where we halted to cook the small remainder of our rice for breakfast. Our meal over we continued our journey to Waipukurau, reaching it by 2 p.m., all hands there being very glad to see us; some of them having given us up, not hearing anything of us.—

2nd. Morning prayers, schools, and breakfast over, I married the 9 young couples, who were here awaiting my arrival; at noon I left for Patangata.

3rd. Left Patangata for the Mission Station at Waitangi, reaching it in safety by sunset, and found all well. *Laus Deo*.

And now for a few further remarks on the peculiar Botany of the higher western sides, and of the summits of the range, not observed on the former occasion.—

In the open ground, on two or three mound-like hills of peaty-looking soil, and near each other, on the W. side, grew that remarkably fine *Ranunculus*—*R. insignis*. On my discovering it I was astonished at its size,—its largest golden flowers being nearly 2 inches in diameter, its flowering stems 3–4 feet high, and some of its round crenated leaves measuring 8–9 inches across! Both Sir Jos. Hooker, and his father were equally surprised and delighted, and as it was (then) by far the largest species known, Sir J. Hooker gave it that appropriate specific name—*insignis*. I only found it in that locality, but it was in great plenty; its principal neighbour was the notorious *Taramea* plant (*Aciphylla Colensoi*.) already fully noticed; and those splendid compositaceous plants *Celmisia spectabilis* and *C. incana*, which generally grew close together, forming large dark-green shining patches and bearing a profusion of fine white flowers—a striking contrast to their leaves. At first sight I saw that this new *Ranunculus* was closely allied to *R. pinguis*, of Lord Auckland's group and Campbell's Island,—then lately described in the *Flora Antarctica*, of which work I had received an early part just before I left the Station. Other plants of those far-off Antarctic Islets were also found here, on the summits; notably *Oreobolus pumilio*, growing in dense tufts in exposed places; while the peculiar straggling *Cyathodes empetrifolia*, and the pretty little flowering plants, *Euphrasia antarctica* and *Myosotis antarctica*, flourished in half—sheltered hollows, with *Plantago Brownii* and the Grass *Catabrosa antarctica*. With these last also grew, very closely intermixed (much as we have seen the Daisies and Buttercups among low turfry grasses in our English meadows,) the curious plant *Drapetes Dieffenbachii*; the little elegant *Ourisia cæspitosa* abounding in flowers; a very small and new species of *Plantago* (*P. uniflora*); and a similar-sized Botanical

1095 WC: This was not far from where Mr. Avison's house is now.

novelty *Astelia linearis*,—a tiny plant bearing a large orange-coloured fruit; a little *Caltha* (*C. Novæ Zealandie*), having pale star-like flowers; two graceful *Gentians* (*G. montana* and *G. pleurogynoides*); and a very small shrubby prostrate *Coprosma* (*C. pumila*); together with several little elegant shrubby *Veronicae*—which I have formerly mentioned.—Two Orchideous plants, *Pterostylis foliata*, and *Caladenia bifolia* (of which I wished for better specimens,) I also detected [60] growing sparingly; and with them a couple of *Carices*, *C. acicularis*, and *C. inversa*; and, also, two species of *Uncinia*,—*U. divaricata*, and *U. filiformis*;—and with them several interesting *Hepaticæ* and *Mosses*.—Only in one or two spots, in shady sheltered places near the top and just within the forest, did I meet with that pretty little plant *Ourisia Colensoi*,—but in those spots there were plenty of them, and always beautifully in flower; the plants of this species grew apart, as if they liked room; in this respect differing altogether from the other species of this genus I have seen. With them were always associated the mute little brown bird with a white head, as if they were the guardian wood-nymphs of those shady bowers!—this bird I have mentioned in Paper I., p. 27.

“Oh! there are curious things of which man know  
As yet but little! secrets lying hid  
Within all natural objects. Be they shells,  
Which ocean flingeth forth from off her billows  
On the low sand; or flowers, or trees, or grasses,  
Covering the earth; rich metals, or bright ores,  
Beneath the surface. He who findeth out  
Those secret things hath a fair right to gladness;  
For he hath well-performed, and doth awake  
Another note of praise on Nature’s harp  
To hymn her great Creator.”——

I have yet to mention a few other Alpine plants peculiar to the table-land on the topmost summit,—the barest and bleakest spot! these I have reserved till last, as requiring extra notice, and though dissimilar, as to Order and Genera, I have here brought them together, because they are all found only on the most exposed peaks,—all of very low growth,—and all were only seen in curious isolated patches, tufts, or hemispherical shaped cushions closely compacted together;—each species of plant apart entirely to itself in its own tuft or patch, and never intermixed in growth with other plants,—like those others already mentioned were: by which natural means, I suppose, they manage to keep their hold in the ground. There they were on the hard dry summit clinging to the soil,—in summer exposed to the heat of the sun and to the fierce winds which must often sweep over those peaks,—and in the winter to be deeply buried for some months in the snow. (1) *Raoulia grandiflora*, a very small Compositaceous plant growing in dense tufts or patches, and bearing a pretty white flower. (2) *Helophyllum Colensoi*, a curious plant, closely allied to the unique genus *Forsteria*,—and still more closely allied to a species of this new genus, discovered by Sir J. Hooker in Lord Auckland’s group and Campbell’s Island, this plant also takes the form of an elegant large cushion, being closely and evenly impacted together, bearing its white starry flowers upright against the sky peering forth from its tiny moss-like leaves at the tips of its little branches! a truly Alpine-looking plant.<sup>1096</sup> (3) A Juncaceous plant, scarcely an [61] inch high! *Luzula Colensoi*, also assumes dumpy hemispherical tufts or cushions. (4) A little gem of a

1096 WC: I managed to bring living portions with me to the Station, and kept them alive for several months under glass, where they flowered abundantly and well.

Restiaceous plant, much like a pale-green moss in appearance, and less than an inch in height, *Alepyrum pallidum*, is another that forms large densely spreading patches; this, also, was discovered by Sir J. Hooker in the far-off Campbell’s Island. (5) A *Carex* which, strangely enough, is said to be identical with a well-known species of Europe and N. America, (*C. Pyrenaica*)—this plant is found growing together as a thick turf closely around snow-holes and snow-runs. (6) *Pentachondra pumila* (a plant originally discovered by Forster,) densely covers exposed lumps and knobs of earth with its peculiar living mat of handsome purple-green heath-like foliage and branches, that thong and grow over each other, its elegant carmine berries of a large size for the plant, which here and there peep from beneath, are of a peculiar oval form (not unlike the fruit of *Rosa canina*) and hollow like a bladder (resembling the bladders of some species of *Sargassum* = sea-weeds), with 5 little tiny seeds, or nuts (*pyrenes*), stuck round on the inside,—whence its generic name. These fruits are mostly hidden underneath its numerous small moss-like leaves; like the crimson fruits of the several other shrubby plants of similar low and prostrate growth, and only found at high altitudes, and there in the bleakest spots, viz. *Podocarpus nivalis*, *Dacrydium laxifolium*, *Gaultheria antipoda* (var.), *Cyathodes empetrifolia*, &c. I had long looked out for this plant, and was much gratified in finding it; but its flowers, being excessively small and insignificant and having a withered dingy appearance, much disappointed me.—

On one occasion I crossed this range in December, about Christmas,—and to my surprise found the snow lying still deep in the hollows on the top and on the W. side; in some places it was more than 6 feet deep, for I sent my long travelling spear down into it and could not touch the soil; it was frozen, however, on the surface, and was tolerably firm under the foot. It was also melting fast, the water running down all around its edges; and the heat was great in the sun, a kind of warm steam arising from it. But what struck me most of all, was to see the delicate flowers of the plants beneath (*Drapetes*, *Veronica*, *Cyathodes*, &c.,) emerging from the snow with a little gentle spring and with perfect petals! It was a pretty—aye! a wondrous sight,—to see the open flowers springing up through the melting snow! Reminding one of a portion of Southey’s “*Thalaba*”,—(that wondrous flower-garden in the snow),—and of Coleridge’s “*Hymn in the Valley of Chamouni*,”—

“Ye living flowers that skirt the eternal frost,” &c.

There is yet another curious plant that I should like to mention—to call attention to; not that it is confined to those high woods, for it (or a closely allied species) was formerly pretty common throughout N.Z. in the damp shady forests, but always scattered; and I have good reasons for believing that it is gradually becoming more scarce—like many other of our native plants. It [62] is an Orchid, a species of *Gastrodia*, a small genus peculiar to N. Zealand, Australia, and Tasmania, and the E. Indian isles. It is leafless, and has a strange appearance, reminding one at first sight of the larger British species of *Orobanche* (Broom rape).

Leafless, however, and rapid, up darts the slenderer flower-stalk, And a wonderful picture attracts the observer’s eye.<sup>1097</sup>

1097 “Blattloss aber und schnell erhebt sich der zärttere Stengel,  
Und em Wunderbild zeiht den Betrachtenden an.”—  
Metamorphose der Pflanzen. GOETHE.

Its root, a tolerably large cylindrical tuber, is perennial; its single scaly and spotted flower-stem is 2 feet and more high, stout, erect, and bears several pretty large and peculiar bizarre flowers. The root was eaten by the old Maoris, together with the tubers of other congenerous terrestrial Orchids,—*Pterostylis*, *Thelymitra*, *Orthoceras*, &c. (Much like those of several British Orchids,— as *Orchis mascula*, &c., from whose tubers the nutritious salep of commerce is obtained.) A chief reason with me for mentioning this Ruahine forest plant, is, that I have good reasons for believing it may prove to be a different species from the Northern one, *Gastrodia Cunninghamii*, HOOK., fil.,— which A. Cunningham its discoverer supposed to be identical with the only Australian and Tasmanian species— *G. sesamoides* of Brown. This Ruahine plant being taller (2 ft. 9 in.), and much larger in all its parts than the Northern one, and bears many more flowers, 80–86, on its longer raceme of 15 inches. And though I have more than once met with it in the lower mountain woods, it had always past flowering with withered perianths.

I have already mentioned a peculiar looking peak, or spur, on the top of the Ruahine range, running in a Northerly direction (when viewed from Matuku), and called, Te Papakiakuuttaa.<sup>1098</sup> On every journey of mine to and from Patea, I had always been desirous of visiting that strange-looking outlying spur; and one year (probably 1850) I managed to do so. On that occasion of returning from Patea, I had arranged that we should sleep at our "stone snow-well" in the alpine forest,—that being the nearest place to the said spur that we could "camp at" on our way back to Hawke's Bay without losing much time. We did so. Early the next morning we were on the move, and when we got to the W. summit, I, for the first time told my party what I was going to do,—to visit alone Te Papakiakuuttaa. For a long time they strongly objected to my plan,—for them to proceed from where we then were some 2–3 miles on to the "camping-place" on the E. side of the peak, where I would rejoin them at evening,—they preferring to remain and wait for me where we then were, which I would not allow. At last I got them to leave me,—I privately telling my trusty native among them, that if I did not appear by sun-down, he was to come as far as the "two slips" to meet me. Taking my dog with me I went on: it [63] was a gloriously fine day, the sun was melting; ere long the course without trees or high shrubs was more difficult than I had expected owing to the snow rifts in the earth and the boulders; and when, after several hours' toil, I got to the spur and mounted on it, to my great astonishment I found that all the upper part of that huge rampart was wholly composed of loose rocks and stones without any earth or clay between! It was a singular spot; no living thing was there, save a few common small lizards (*Mocoa*) basking on the black rocks in the sun, which (unlike Darwin's at the Galapagos,) scuttled off pretty fast on seeing me,—though they, in all probability, had never before seen a man. Not even a plant grew on it, and my dog finding he could not well get up on it, staid behind and howled! I walked some distance over the top, though every step required caution as the stones were loose; I never saw anything natural like it before; it seemed more like a place of Cyclopean art, and together with the extreme solitude caused many strange thoughts to arise,—to which the finding of that green-stone axe,—and also the peculiar, almost regular, formation of the earth I had noticed in one of the dry forests in the neighbourhood lower down, as if

anciently cut into ramparts and fosses (though now overgrown with fine trees of the large-leaved *Fagus*), contributed their share. The prospect inland was very extensive; no doubt with a glass the people of Matuku could have seen me standing there in bold relief against the sky. I staid there a while, musing:—

“How divine,  
The liberty, for frail, for mortal man  
To roam at large among unpeopled glens  
And mountainous retirements;  
—regions consecrate  
To oldest time! and, reckless of the storm,  
Be as a presence or a motion there.”

The day was now fast waning, and I left the dike to return; when suddenly I became faint, and I found my strength failing me fast. I sat down and deliberated; soon after my dog came up, wet, and covered with red vegetable mud; I tracked to where he had been bathing in a small snow-water pool, between two small hills, the water in which was quite warm, almost hot, and red, and thick with decaying vegetable matter, which had been just stirred up by the dog; I strained, or squeezed, some through my handkerchief and drank, and bathed my head and face. By-and-by I proceeded, but before I got on to the open and clear table-land of the top the sun went down, and it soon became nearly dark; still the travelling was pretty good there on those flat tops, only now and then stumbling, through haste and hunger, over low tussocks and mounds and boulder stones. It grew still darker, and the place was fast becoming enveloped in night clouds, when suddenly a dark form appeared just before me, and my dog barked and stood! it was my trusty native, who, having become alarmed at [64] my non-appearance and long absence, had left the encampment and the "two slips", in quest of me; in two hours more,—after crawling slowly along, literally feeling one's way, as we could not now walk fast owing to the darkness, and passing the two dreaded slips without difficulty, the ground there being dry,—we got to my party, who had long sat in great fear and superstitious dread, that they had had no supper! I gained very little indeed in Botany that day; nothing whatever of importance.—

As I have said so much (incidentally) respecting the isolated natives of Patea, a few words in conclusion may not be deemed out of place. They all received Christian Instruction very readily, and soon learned to read, and several of them to write. I visited them again before that year (1847) was ended, (after having made two journeys to Cook's Straits—beyond Wellington—and back,) and several times also during the following year. A few of my Maori Teachers also visited them; and in due time they were nearly all received into the Church by Baptism. Those villages, however, have long been deserted for more eligible places, where they can dwell with their horses and stock.—

"Still stands the forest primeval; but under the shade of its branches Dwells another race, with other customs and language."

Several of those natives, or their descendants, are now settled with their relative the chief Renata, at Omahu, Hawke's Bay.

“The old order changeth, yielding place to new,  
And GOD fulfils Himself in many ways.”  
*Mort d'Arthur.* TENNYSON

And now, with a few expressive and feeling lines from Wordsworth, I will close my long narration:—

1098 WC: Page 46. See Note B., Appendix.

"Though, changed, no doubt, from what I was when first  
 I went among those hills;—I cannot paint  
 What then I was. The sounding cataract  
 Haunted me like a passion: the tall rock,  
 The mountain, and the deep and gloomy wood,  
 Their colours and their forms, were then to me  
 An appetite; a feeling and a love.— And I have felt  
 A presence that disturbs me with the joy  
 Of elevated thoughts; a sense sublime  
 Of something far more deeply interfused,  
 Whose dwelling is the light of setting suns,  
 And the round ocean and the living air,  
 And the blue sky; and in the mind of man:  
 A motion and a spirit, that impels  
 All thinking things, all objects of all thought,  
 And rolls through all things."—

Tintern Abbey. WORDSWORTH. [65]

## APPENDIX.

### NOTE A., p. 5.

Seeing that Hawke's Bay has become so noted for its numerous and fine large cattle, it may not be altogether out of place to give in a note their first introduction into the District; which may, at least, amuse the Breeders who read or hear of it. I brought here with me, in 1844, five head; viz., 2 cows, 2 heifers, and a young bull. One of the cows was a red poley, a well-formed creature; one that had been a few years before imported by me from Parramatta N.S. Wales (selected from Mr. Marsden's celebrated herd) to the Bay of Islands; the other was a white and yellow long-horned cow, also a good one. And here I may relate a curious incident respecting the red poley; on my vessel arriving at Ahuriri, and anchoring off the Bluff, the Captain, who had never before been in Hawke's Bay, (I acting as pilot,) went in my whaleboat and sounded the bar entrance to the harbour, and for some way within it. Presently lots of natives came off to us in several canoes, so that the ship's deck was soon uncomfortably crowded. The Captain, however, did not enter the Ahuriri, though he would have done so (he said) if a change of weather should come on, his vessel a brig of 160 tons being rather large, but anchored off the Waitangi Mission Station, where he discharged all his loading for me. I may also here mention as a thing of the past, never more to be seen in Hawke's Bay, that on that occasion we had no less than 120 canoes at one time around our ship, which, with the fierceness of the people, at first alarmed our Captain pretty considerably. While at our first anchorage, we determined on landing the cattle there under the Bluff, and while these were getting ready, a high dispute arose among the Natives on Board, at the head of which was the Chief—Te Waaka te Kawatini (subsequently so well known to the settlers here), and the dispute was simply this,—that the said red poley cow was a horse! it was referred at last to me and soon decided. There being no grass then about the Waitangi Station, the cattle wandered a good deal seeking food, and were with difficulty found and brought home. By-and-bye the red poley was killed just after calving; the fierce wild pigs having absolutely eaten away the teats and adjoining parts of the cow! through which she had miserably died, and was so found by us very soon after. We sought diligently all around for the calf, but could find no trace of it, no remains; and we supposed that it had been eaten too. I got several natives to dig a large and deep pit to bury the cow, and this was done; and a week or so afterwards the little red calf (like its dam) was

accidentally found dead, lying whole and stretched out across its mother's grave! One of the two heifers fared much the same in calving as the poley cow; we knew her time was [66] near, and had kept up a pretty good watch over her,—but there being yet no food close at hand, and the great flood of 1845 happening, (the greatest by far that I have ever known,) the winter too having commenced, and the great difficulty of getting any of the Natives to do any thing properly, owing to their being wholly unused to all our work, and to the disagreeableness of the job of searching that wet and tangled flat half-naked and in wet and cold weather,—and then (as I take it) the propensity of cattle to seek some retired and sheltered spot for calving,—she wandered far away, so that she could not be timely found; at last she was found, recently dead, killed!—with the head of the partly expelled calf gnawed off and all the surrounding soft parts of the mother including her udder!! This, however, was mainly if not entirely done by a big ferocious bull-dog or half-breed, which the Natives had some time before obtained from a ship off the Cape at a high price as a pig-dog. I scarcely need add, that I could obtain no redress: I had "to grin and bear it." My time of power and influence among them had not yet come; indeed, I was scarcely settled down, and had quite enough to do to hold my own against the suspicious and powerful tribal Chiefs (or petty Kings!), who were all, at that time, determined heathen and opposed to Christianity. In a few years, however, patient perseverance was rewarded, and things were wonderfully changed. Ultimately that savage dog was obliged to be killed; not, however, until after he had done me much mischief.

I could also give several other strange anecdotes respecting those few cattle and their offspring,—and of what I had to put up with respecting them, during my early years of residence here,—which would scarcely now be believed!

I may, however, add a brief history of the first Horse. This animal was obtained by me from Poverty Bay (overland), in 1846; it was a fine strong docile creature, a bright bay gelding with black points, and named Cæsar. I have already mentioned "the great flood of 1845,"—that completely destroyed all my first farming! or, laying-down of two paddocks (about 4 acres) in rye-grass and clover. I had got the ground cleared, dug up, drained all round—the situation being very low—and partly fenced, at an enormous amount of trouble, not to mention expense; and the grasses sprang delightfully; when the heavy flood came and destroyed all!—The silt deposited on that occasion, (as I subsequently informed Dr. Featherstone, then Superintendent of the Province, at his official request,) measured, in some spots in my two paddocks 2 ft. 4 in. in depth, and in none less than 4–5 inches. To return: there was no grass about the Station, or indeed anywhere on all the low lands around, for the horse; so that, in the following autumn, (during my long absence from the Station,) the poor horse died! mainly from want of proper food and the wet plashy state of the whole low country around. Had I, however, been there, I would have turned him out on to the long beach between Waitangi and Ahuriri, where he could have found a scanty picking on dry ground; but those in charge feared to do so, lest he should seek to go back to Poverty Bay, and in [67] doing so, attempt to swim the Ahuriri and be carried out to sea. I was told, on my return, that the frogs of his four feet had swollen out like balls or cushions, so that for a long time before his death he could not stand. The Maoris were then, at the last, greatly interested in saving him, and gathered coarse grasses and leafy shrubs at a distance in profusion, and brought

them to him. Though broken-in to saddle, he was never ridden by us.

I should also give a brief outline of my early troubles attendant on my first attempts at farming:—viz. the bringing-in to cultivation a few acres of the wild waste, by preparing and laying it down with grasses. I have already mentioned the heavy flood in 1845, and the deep deposit of silt it left; that was bad enough, and destroyed all hopes of grass for the first year. But that trouble and disappointment, great though it proved to be, was but slight when compared with the greater trouble that arose from the fencing not being completed! I have said, that the 4 acres of cleared land were “partly fenced”; and thus that ground remained for nearly four years! and it came about in this way. In order to please the five head Chiefs of these parts, (who were then exceedingly poor, and badly off in money and clothing and moveable goods, and very jealous of each other,) all the work required by me must be shared between them, so that themselves and their people might get a little of the payment,—indeed no Maori could undertake any job without first obtaining the assent of his Chief therefore it was arranged that each principal Chief was to have part of the fencing to erect. With four of them I managed pretty well, and during the first year of residence they completed their shares of the work; but Te Hapuku, who had the long W. side to erect, delayed it, and would not allow his tribe to touch it, (and, of course, none of the others dared to do so!) And this was solely owing to my refusal to advance him any thing more, he having already largely overdrawn the sum fixed for the job (at so much per fathom). And during this long period the numerous half-wild pigs of that place (surrounded as it was on three sides by water,) came in herds to eat down and root up the clover, and to destroy the drain!—which, at first, was a very well made and effectual one. It was about four years before Te Hapuku allowed his share of the fence to be made, and it was the worst piece of work of the whole lot, composed of roughly split white pine from the “Big Bush” near by, and badly put up; while the E. fence, composed wholly of totara, laboriously brought front Kohinurakau 25 miles distant, dubbed down, and securely cross-bound to the rails, stood sound and good for 20 years and upwards. Those early years were, indeed, a time and school for patience!

#### NOTE B., pp. 9, 46, 56, 62.

I have not unfrequently mentioned the peculiar and figurative yet fitting names of places and things given them by the ancient Maoris.<sup>1099</sup> And so, here, [68] I would endeavour to explain the compound names of those three prominent peaks of the Ruahine range, viz.—

1. *Te-atua-o-rnahuru.*

2. *Te-atua-o-parapara:* or, *Oparapara.*

3. *Te-papaki-a-kuuta.*

These proper names are each composed of a sentence of four (and five) words; each name containing or implying a personification; and, no doubt, in the opinion of the ancient Maoris possessing a right and proper meaning,—though lost, or nearly so, to the present generation. As it is difficult to explain them fully and clearly in a foot-note in a few words, I have reserved doing so for this place.

<sup>1099</sup> WC: Particularly in my Papers on “Nomenclature,” published here last year.

#### 1. TE-ATUA-O-MAHURU, pp. 9 and 56.

Of this name the last word (*mahuru*) is now almost obsolete, rarely used save in old songs, and has several meanings,—all similar to the Maori mind.—

(1) Deep yearning affection towards an absent one,—as husband, child, &c. (2) The same exhibited towards any one bringing tidings of the absent one; or, on casually hearing from a travelling party of his welfare, &c. (3) Ease, relief, comfortable feelings on sitting and resting after climbing a steep ascent. (4) With the causative particle prefixed,—to help kindly; to attend gently on a weak person; alleviation of pain and weakness; comfort. (5) An old name for the Spring season, return of Spring, warm welcome weather: hence (6) a name for the migratory Cuckoo (*Cuculus lucidus*), that arrives here early,—*nga-karere-o-Mahuru* = the heralds of Spring.—

*Atua*, = (here,)—any being or thing of an evil, demon-like nature, sort, or kind; the enemy, or very opposite of a good thing, sort, or quality.—

*Te*, art., sing.,—here, emphatic and intensitive.

*O*, prep. of.—

So that, *Te-atua-o-mahuru*,—the opponent of, or something opposed to affection, good-tidings, kindness, relief, warm and comfortable weather, &c. A fit name for a barren and rugged mountain top, where in snow and rough weather no one could sit to rest after toiling up the ascent; which might also serve to indicate its being the barrier to loved ones left below on either side.

#### 2. TE ATUA-O-PARAPARA: or, abbreviated, OPARAPARA.

Here, too, the last word (*parapara*) has several meanings.—(1) Dregs, dross, small fragments, crumbs, slime, scud, &c. (2) A sacred isolated spot or place,—fire,—food, &c. Either or both of the above may be well-applied here (1) for snow,—as dregs, scud, &c., deposits from the Southerly gales;<sup>1100</sup>—(2) sacred isolated peak; (N.B. What the old Chief said respecting it, p. 37).

The other three words,—*Te*,—*atua*,—and *o*,—as before.

Then we have,—The disagreeable hateful (place) of the leavings of the [69] cold Southerly gales,—i.e., snow. Or, if abbreviated, (*Oparapara*),—“place” (understood) “of snow.” Or, the name may have originally been, carrying out the personification,—*Te-atua-ko-parapara*; (the *k* being dropped, as is often done for abbreviation and euphony;) which only serves to intensify disgust at the place.

Those are two of the culminating peaks of the range, and are visible all over Hawke’s Bay and country E. and S.

#### 3. TE-PAPAKI-A-KUUTA, pp. 46 and 62.

This very remarkable place has certainly a correspondingly remarkable name. As in the former proper names above, so here, the last word is the difficult one to fix the meaning of; though this one is much more so.

After no small study, I think that *kuuta* must be taken as representing *tu uta*; (*k* in ancient words being sometimes

<sup>1100</sup> WC: See Para-te-tai-tonga, = Dirt, or dregs, from-the-Southern-Sea,—the name of the higher mountain in the interior, always covered with snow: p.45.—Also, “Nomenclature,” p.16.

used for *t*;<sup>1101</sup>) then, *tu uta* may mean,—u. = the warrior god (Mars) defender of the interior (*uta*).

*Papaki* = the perpendicular cliff, dyke, barrier.

*Te*, and *a*, (active prep. for *of*) as before.

Thus we have,—The barrier of (the) defender god (of the) interior.

I noticed, that some of the old Maoris of Patea laid stress on and lengthened the last vowel of the word; thus,—“*Te-papaki-a-kuutaa*”: the meaning however would be very nearly the same,—instead of—“the god-defender of the interior” (*uta*); it would be, the “god-man-slayer by dashing down” (*taa*). Both meanings, as they seem to me, are equally suitable.—

#### NOTE C., p. 30.

I may here briefly mention, for the information of many, the boundaries of the “parish”(!) or ecclesiastical district assigned to me by Bishop Selwyn in 1844;—if only to show the amount of heavy travelling I necessarily had in those days. From the River Waikari on the N. to Cape Palliser and Port Nicholson S., (more than 2° of longitude,) including also the Maori villages in Cook’s Straits,—Ohariu, Ohaua, &c.; and from Taupo Lake on the W. to the E. sea-coast, including the River Manawatu to the Gorge, and thence through the forests to Wairarapa. My long distant journeys occupied me about 7 months every year, exclusive of those made to the villages nearer me—say, within 50 miles; the long half-yearly journey (in which I visited all the distant S. and W. Maori villages, going by the sea-coast and returning through the forests of the interior,—or vice versa,) usually took from 76 to 84 days, dependent on the weather; and all on foot, without roads or paths, and not unfrequently (at first) without even tracks, or guides;—travelling by compass, in the interior, and by the coast line, over rocks and tidal beaches; often having [70] there to wait at headlands and cliffs for the tide to ebb, and not unfrequently sadly delayed and put out at the mouths of the rivers! Let any one who may doubt, or who is ambitious of knowing something of that kind of travelling in the past, let him just try a run, with a load on his back, *over the rocks* from the mouth of the river at Manawarakau to Pauanui (near Pourerere); or, *over the rocks* from Akitio to Owahanga; or the tramp by the strict coast-line all the way from Cape Palliser to Wellington; those places being still pretty much as they were in a state of Nature.

#### NOTE D., p. 41.

Strangely enough, Sir J.D. Hooker, in the “Hand Book”, gives “Tongariro and Ruahine range”, as the only habitat in the N. Island of *D. Colensoi*; and that too, as from me: such, however, is not the case, as a reference to the *Icones Plantarum* (vol. II., tab. 548) of his father (who received the original plant (*D. Colensoi*) from me, and who there first described it) will shew,—unless this very small “Tongariro” plant, and a larger one from “Ruahine”, may prove to be only Alpine varieties of that species, *D. Colensoi*.—The original *D. Colensoi* I found only in the N. forests, inland on

the high ranges between Whangarei and Whangaruru Bays, in 1841; it is a large and scarce “Pine” there, the true *Manao* of the old New Zealanders. Since writing the above, I find, from vol. X. “Transactions”, just to hand, that Mr. Kirk, has (I think) unintentionally contributed a little more to the foregoing error respecting *Dacrydium Colensoi*. Therefore, I here give an extract from my letter to Sir W.J. Hooker, of July 1841, (as published by him in the *London Journal of Botany*, vol. I. p. 298).—“Since I had last the pleasure of addressing you, I have made a journey of about 4 weeks to Whangarei Bay and neighbourhood, in S. lat. 36°, returning by a circuitous route, *via* the interior.—In the box now sent you will find some things both novel and interesting.—The *king of the whole lot* is my new “Pine,” from the high hills near the Eastern coast. For many years I had heard of this tree from the aborigines, but could never obtain a specimen, no one knowing where it was to be found. They had heard of such a tree, and some of the oldest Chiefs had occasionally seen it, when hunting in the forests; but all agreed that it was very rare, only growing singly. The reason, too, for its unfrequent occurrence was this,—*Tane*, one of their illustrious demigods, hid it! Still it existed, a distinct tree which never rotted. As a proof of all this, the people, wherever they could find a tree, reserved it for a coffin to hold the remains of a chief. These statements, you may well suppose, only inflamed my desire to possess specimens of this wonderful tree. I sought and sought, but all in vain, wherever I went, making inquiries after, and offering rewards for, it,—until I actually gained a name among the natives for doing so. At last, early in this year (1841), after a toilsome march through an unfrequented spot and jungle, to the place where I had been informed that one [71] grew, I found it! I will not attempt to describe my satisfaction, which was much increased by observing that the specimens I had acquired were in fruit.—The tree (for a “Pine”) is not large, about 50 feet high, and 2 ft. fin. in diameter. In appearance it somewhat resembles the *Kahikatea* (*Podocarpus dacrydioides*).—I also send a specimen of the wood. The bark on the trunk is deciduous, but not like that of the *Totara* which is fibrous; this is only scaly and brittle, as in the Kauri (*Dammara Australis*). Subsequently on the same range of hills, I saw two other of these “Pines,” of nearly similar size.”

#### NOTE E., p. 46.

It is perhaps worthy of recording, that this was the first inland Christian Chapel erected in this extensive District. It was neatly and strongly built, very simple, with plain narrow lancet windows, and three together (the central one larger) in the E. end; its whole furniture consisting of a small holy table, a rustic font-stand, and a strong reading-desk; no seats or forms. The floor, however, was nicely covered with matting of undressed N.Z. Flax (*Phormium*), neatly woven in a narrow pattern by the women. The windows were without glass, (we being too poor and too far away from civilization,) but they had white canvas strained and oiled instead,—which served just as well.

This building was in daily use for many years for School, and Religious Worship, and yielded good service; being largely esteemed by the Maoris of all parts, many of them coming from a long distance to see it. It was subsequently enlarged, as the little peaceful Christian Village grew in size and importance; and on the settling in its neighbourhood of the first European settlers (some 7–8 years after), it was also occasionally used by them on Sundays for Divine Service. Unfortunately its end, and that of the Maori Christian

1101 WC: In the Hawaiian (Sandwich Islands) dialect k is frequently interchanged with t; and it is worthy perhaps of notice, that another romantic place among these mountains not very far away N. from this,—Kuripapango,—is supposed to derive its old proper name from a Hawaiian word. (Vide, “Three Literary Papers”, by W.C., p. 4: 1883.)

village of Waipukurau, were not what they should have been. Its name, however, is perpetuated in that of the present neat and rising township.

**NOTE F., p. 50.**

Having mentioned the Chief Renata I may here give, in a note, a little more of this man's career, showing (as often is the case) how truth is stranger than fiction! In due course of time (from the storming of Te Awarua), in those old days of frequent fighting, slavery and death, Te Kawepo was again taken prisoner by other tribes from the N., and eventually found his way, as a slave, to Te Waimate in the Bay of Islands. There, with others (slaves), he was brought under the influence of Missionary Teaching,—was taught in their schools to Read and Write, &c.,—was in the end Baptized, taking the name of Renata (Leonard),—and, on my leaving Te Waimate (the second time) in 1844 for Hawke's Bay, I brought him here with me, partly as a Domestic. He lived with me some considerable time, and did good service in many ways; often travelling to visit outlying places as a Christian Teacher, (on foot, and bare footed, scantily clad and *without pay!*) and, on one occasion, at my request, [72] visited this far-off Patea,—and, of course, this very spot at Te Awarua. The whole story, however, of this man's life, though very interesting and remarkable, is too long, too intricate, to be related here; to show how he attained to his present high position of the principal Chief of his tribe—it would form an interesting little book.

**NOTE G., p. 53.**

I had one more truly awful night on this range, and on this W. flank of it, but much nearer to the summit; which I may as well relate here.—Curiously enough it was in returning from my very last visit, made in 1852; and it was brought about in this way. I made two visits to Patea in that year; the last one was very late in the season, in May; and I went there purposely to marry the chief's son, Frederic, whom I had Baptized, a fine young man; which I had also promised to do. The days were very short, and among my baggage-bearers were three new hands, who were unused to bush and mountain travelling. In leaving Te Awarua, where we had purposely slept, so as to start early for the mountain and get over the summit and the "two slips" before night,—fearing, too, any sudden change in the weather, at this advanced season, which had been threatening, (having now a nice snug little camping place just below the tops on the E. side,) my new hands being also heavily laden with the good things of Patea,—potted birds and roast pig—the *debris* of the marriage-feast,—loitered behind and straggled about in the forests, in spite of all my remonstrances. The consequence was, that the sun went down when we were more than an hour's journey from the summit, and it very soon became dark; so that we had to bring up on the lower part of Maunga Taramea! with snow lying all around!! The darkness was excessive; we hastily put up the tent (in a miserable kind of way), but there was no fern nor grass nor leafy branches for the wet floor, and, try as much as we could, we could not make the fire burn,—it would only just simmer without any flame! We had no supper, for we could not roast our potatoes; at last I had a cup of tea made with some snow water, and then, as a last expedient, I got my little kettle refilled with snow and boiled, and took it hot into my tent and blankets to warm me; in the morning it was a solid lump of ice inside my bedding! At one time, during that long night, I did not expect to see the morning. My poor natives sat huddled together on the wet cold ground all night, not daring to move through fear of the prickly

*Tarameas (Aciphylla)!* the miserable fire soon going out; we kept calling one to another till daybreak. Oh! what a night that was—never to be forgotten! With the morning came the cold cold (and wet) fog; and it was two hours after sunrise before we, on the shaded W. side, got his beams! We dared not to move, for everything around was dripping wet, and with the horrid young *Tarameas* poking through the snow! Myself and native companions for years after, spoke shudderingly of that night!

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**1884 On a New Zealand fungus that has of late years become a valuable article of commerce. *Transactions of the Penzance Natural History and Antiquarian Society*, 1884-5.<sup>1102</sup>**

**I.** I HAVE been not a little gratified in reading Mr. Ralfe's papers on "The Fungi of West Cornwall," given in the *Report and Transactions of the Penzaace Natural History and Antiquarian Society* for the years 1880-83, and lately received by me here, especially with those portions that deal with the edible species; for in this country there are no doubt many of this class. Some of them were used by the ancient Maoris, as I have formerly shown in a paper on their vegetable food.<sup>1103</sup> More species, however, yet remain to be hereafter brought into notice and use. Of one of these in particular I am now about to write, as it has almost suddenly become a very considerable article of commercial value and export; and I think that what I have to state concerning it will prove interesting, and its value, though strictly derived from official sources, be deemed almost marvellous.

**II.** During the past winter of 1883 (May to July) I was induced to give a lecture here in Napier, before the Hawke's Bay Philosophical Institute, on this and on other of our small, wild indigenous plants and productions, in order to show their great economic value. To this I was in a manner led through observing, when on my usual botanizing rounds or holidays in the "bush,"<sup>1104</sup> several small children of the Scandinavian settlers residing there, going about in the woods with their bags, gathering this particular fungus for sale; and from them I obtained a few items of information respecting it.

**III.** On my landing in New Zealand (direct from Penzance), nearly fifty years ago, and on my entering and traversing its grand forests, lonely seashores, and open wilds,<sup>1105</sup> I was struck with the appearance and number of its fungi, as in

1102 He wrote to JD Hooker (29 October 1883), "I have just written a letter, & a paper on a Fungus, to Mr Marquand, the Hony. Secy. of a Socy. at Penzance, & have requested him, if it be published by them in their 'Trans.' to send you a copy."

1103 WC: *Transactions New Zealand Institute*, vol. xiii. p. 30. No doubt they would have used more if they had been acquainted with vessels that would stand fire.

1104 WC: "Bush" is the common term for forests and woods in New Zealand.

1105 WC: At that time and for many years after, fungi and ferns, and indeed all cryptogams, always wore a fresh uninjured appearance through their not being in any way disturbed, there being no cattle in the country, nor roads, nor inland traffic of any kind.

many respects their forms were so widely different from our northern and British ones—not only peculiar and curiously shaped (bizarre, I might truly say), but not unfrequently of huge size and of brilliant colours. This one, however, which has so rapidly grown into a valuable export (*Hirneola polytricha*) though common, had nothing in particular to call attention to it, except perhaps its compact gregarious semi-pendulous manner of epiphytic growth and its twofold guise; for sometimes it might be met with completely clothing the trunks of old trees, especially on the margins of streams near the seashore, and there, when dry, presenting a widely different appearance to what it did when wet; in the former case, shrivelled and as hard as horn, in the latter, expanded, soft, and tripe-like, or almost sub-gelatinous and elastic, and as if, through their growing so closely together, they were jostling each other for room. Yet they adhered firmly to the surface on which they grew. Little did I (or others, if any there were who noticed them) then think that such common, uninteresting-looking things could ever become a valuable article of commerce.

**IV.** The genus *Hirneola*, established by Fries, is but a small one, though its species are found in several parts of the world, and in various climates. Here in New Zealand we have at least three known species (*H. auricula-judae*, and *H. hispidula*), as described by the Rev. M.J. Berkeley in Sir J.D. Hooker's *Handbook of the New Zealand Flora*; none however being endemic. One of them, *H. auricula-judae* (formerly *Exidia*), is also British and long known, and is I see (from Mr. Ralfs' list) found in West Cornwall. This last is a smaller and thinner species, and is far from being so plentiful in New Zealand as *H. polytricha*. *H. hispidula* (also a scarcer species) was first discovered in New Granada by Humboldt, and also in the Mauritius and the Vest Indian Islands, and described by Berkeley forty-five yeas ago in the *Annals of Natural History*, vol. iii. p. 396.

**V.** *H. polytricha* was first made known to Science by Montague as belonging to this genus, and as being an inhabitant of the East Indies and Java, though, like our two other species, it was first published as belonging to the closely-allied genus *Exidia*, there being but a very small natural difference between these two genera. This species is thus briefly described by Berkeley (translated and abridged from Montague): "Sub-hemispherical, cup-shaped, expanded, lobed, densely villous externally with grey hairs, disk purplish-brown."

It is of various sizes and, I might almost add, of shapes, some measuring a few inches, and when wet filling a large teacup or small basin; a large dry specimen weighing only 2½ drams. It is found growing on the trunks of many trees, both on living and on rotten ones (especially on the latter while standing), particularly on *Corynocarpus laevigata* and on *Melicytus ramiflorus*, both of these trees being endemic as to genus as well as to species; the former tree is mostly confined to the seashore, where it often forms dense and continuous thickets. In such situations it is generally of small size, but when standing apart it is of much larger dimensions, and not unfrequently in suitable spots it wears an imposing appearance from its large green and glossy persistent laurel-like leaves. The latter tree is scattered plentifully throughout the country, and the foliage of both being evergreen, are eagerly browsed on by cattle.

**VI.** The only market for this fungus is China. From official information, obtained from Hong Kong, we find that it is largely used by the Chinese in soups with farinaceous seeds, and also as a medicine, being highly esteemed. The Chinese

have long been in the habit of using another species of this same genus that is indigenous there in North China, and also of importing another species from other isles in the Pacific; so that the use of this kind of fungus as an article of food is not new with them. Who can say in this article of food Western pride may not again have to learn something more from this ancient highly-civilized and much injured people?

**VII.** I am not aware of the allied British species, *H. auricula-judae*, having been used for food though I note that Mr. Ralfs, who has tried many and widely-diverse species, mentions this one among them, but not approvingly. The Rev. Mr. Berkeley says, "That it was once a popular remedy for sore throats, probably from some fancied resemblance of the hymenium to the fauces, and it is still occasionally sold at Covent Garden.<sup>1106</sup> But he does not say for what purpose. Mr. Ralfs also says, "The Jew's-ear fungus is said to be imported in large quantities into China for making soups." (*Loc. cit.*) There is however a slight error here as to the species, which this paper will serve to correct.

**VIII.** Berkeley (from whom I have just quoted) has another very striking and useful observation bearing on the edible qualities of fungi, which it may not be out of place to quote here. He says, "The greatest objection to the use of fungi in food is that the qualities of the same species are so very different in different countries. The common mushroom has proved fatal in Italy, and is most carefully excluded from the markets, and parallel cases might be adduced with regard to other species. This does not appear to depend upon any idiopathic phenomena, but upon the intrinsic character of the individual specimens. In all there is a small amount of poisonous matter, and the quantity of this in any given species is extremely uncertain." (*Loc. cit.* p. 368.)

**IX.** At first, and for some time, our New Zealand fungus was only exported in small quantities. The demand however rapidly increasing, and the article plentiful and obtained at little cost, save the easy and untaught labour of gathering and drying it, its export rapidly increased. The drying of it, if collected damp, was an easy matter—merely spreading it in the air and sun till dry, which soon takes place, when it is roughly packed in sacks, and if kept dry keeps good and sound for a very long time. The price paid to the collectors for it was originally small, only 1d. a pound; at this figure it remained for some time. It is now nominally 2½d. in some places, which sum however is often paid in barter.<sup>1107</sup> It is said to be sold in the China shops at about 10d. or more retail. I am not aware of the actual price obtained by the exporter, but we find that its declared value at the Customs ranged from £33 to nearly £53 per ton, which no doubt under the real value.

**X.** During the last twelve years no less than 1858 tons of this fungus have been exported, valued at £79,752, as is more particularly shown in the following return, which I have compiled from sources published in the Government statistical papers:

1106 WC: Introduction to Cryptogamic Botany, p. 355.

1107 WC: I should however mention that in the spring of 1883 a large party of Maoris residing on the West Coast, near Mount Egmont, who had for some time been collecting and storing fungus there, sold the lot to an Auckland agent and general dealer, but took the whole total sum, upwards of £425, in hard cash.

Years	Tons. cwt	Declared value £
1872	58 0	1927
1873	95 0	1195
1874	118 0	6226
1875	112 0	5744
1876	132 0	6224
1877	220 0	11,318
1878	103 0	5178
1879	59 5	2744
1880	183 12	6123
1881	187 11	8192
1882	339 17	15,581
1883	250 6	9300
	1858 11	79,752

**XI.** I should observe that the official entries show that those exports are confined to the northern island, and only from two ports there—viz., Auckland and Wellington—except some small lots amounting to seven tons, exported from Poverty Bay and Napier in the last two years, 1882 and 1883. The fungus however may have been extensively collected in the districts containing those two larger ports.

**XII.** I shall send some specimens of this fungus with this paper, in order to illustrate it. On a specimen being wetted and allowed time to imbibe moisture, it will resume very nearly its natural shape.

### 1884 A few stray thoughts on W. Cornwall (Mount's Bay) and our Cornish Botany.<sup>1108</sup>

"To me more dear, congenial to my heart,  
one native charm, than all the gloss of art."

(Goldsmith's Des. Vill.)

It is Xmas. Eve! And here am I alone; and yet not alone—as to thoughts and memories. My lamp is lit, and I am thinking on England, *Home*, and Cornwall (Mount's Bay) in particular. Yet it is not exactly this Season that leads my thoughts so far far away in that direction, though doubtless this has had a little to do with it. For here it is Midsummer; the weather is fine, the thermometer this day has been at

1108 A manuscript is preserved in the Morrab Library, Penzance (ER234) and is published here with permission. It was written as a communication to the Penzance Natural History and Antiquarian Society and was read by the secretary Mr E.D. Marquand on 19 March 1885. The Cornish Telegraph report of the meeting in the Society's minute book reads, "The paper was listened to with close attention, and at its close a vote of thanks was cordially awarded to the author, who is a member of the society and actively interested in its proceedings."

72°; and the fruit shops in the town below (Napier), are loaded with the pleasing gifts of early summer,—Strawberries, Currents (Black, White, and Red), Raspberries, Cherries, and Plums, all fresh and tempting; with beauteous garden flowers in rich profusion: our Summer having been a remarkably fine and showery one, suitable for all floral display.

This, too, is my 50<sup>th</sup> Xmas. season in this far-off land! This alone evokes thoughts, or should do so. Nevertheless, I greatly doubt whether the Xmas. Season and its 50<sup>th</sup> celebration (rather say, anniversary, or revolution,) to boot, would have sufficed to set me so greatly a thinking on old times and old scenes, as a little simple circumstance that unexpectedly occurred this morning.—

Early this morning my man came in from visiting a retired nook or gully in one of my hilly fields, bringing me a handful of flowering specimens from a small shrub he had found there, whose beauty and novelty had attracted his eye; and to my great delight I recognized and hailed the *Cornish* stranger at first sight, by name, "*Tutsan*"! (*Hypericum androsaemum*.) very fine indeed. Now it must be, at least 52 years since I last saw this British plant growing, and then only in one well-known spot, often visited by me,—the edge of Tolcarne wood on the hill, on the left hand side of the pathway through the fields, leading up the granite steps from the highway to the Land's End, (and opposite to the high road branching off to St. Inot,) towards Newlyn—or street-on-Nowan of old time! And then, as a matter of course, whole hosts of scenes, of persons and things and *plants*, came trooping on and up, as if out of the same deep well, evoked by the spell of a mighty enchanter.—

And so I welcomed and received my unexpected Cornish stranger as my Christmas Box.

Who has not read "Tales by Hans Andersen"? and in doing so, thought with him,—even, it may be, to extremes, both high and low and far asunder. So true it is, (as Shakespeare had it,)—"One touch of Nature makes the whole world King". Among other natural and touching pieces and tales of Andersen, (first read many years ago, and often since looked into,) the one called "the Dumb Book", came vividly to remembrance on contemplating this *Tutsan*: from which I beg to give a quotation, or extract, in the author's own words. (The scene is in a forest by a lonely peasant's hut; and in the garden in an arbour of blossoming Elder, stood an open coffin)—"Nobody stood by the coffin and looked sorrowfully at the dead man; no one shed a tear for him; his face was covered with a white cloth, and under his head lay a great thick book, whose leaves consisted of whole sheets of blotting paper, and on each leaf lay a faded flower. It was a complete herbarium, gathered by him in various places; it was to be buried with him, for so he had wished it. With each flower a chapter in his life was associated.

"Who is the dead man?" we asked; and the answer was,— "The Old Student." They say he was once a brisk lad, and studied the old languages, and sang, and even wrote poems.—He was as gentle as a child, except when the dark mood came upon him, but when it came he became like a giant, and then ran about in the woods like a hunted stag; but when we once got him home again, and prevailed with him so far that he opened the book with the dried plants, he often sat whole days, and looked sometimes at one plant and sometimes at another, and at times the tears rolled over his cheeks. Heaven knows what he was thinking of. But he

begged us to put the book into the Coffin, and now he lies there.—

What a strange feeling it is—and we have all doubtless experienced it—that of turning over old letters of the days of our Youth!—a new life seems to come up with them, with all its hopes and sorrows. How many persons with whom we were intimate in those days, are as it were dead to us! And yet they are alive, but for a long time we have not thought of them—of them whom we then thought to hold fast for ages, and with whom we were to share sorrow and joy.

Here the withered oak-leaf in the book reminded the owner of the friend, the school fellow, who was to be a friend for life; he fastened the green leaf in the student's cap in the green wood when the bond was made "for life". Where does he live now? The leaf is preserved, but the friendship has perished! And here in a foreign hot-house plant, too delicate for the gardens of the North; the leaves almost seem to keep their fragrance still. She gave it to him, the young lady in the nobleman's garden. Here is the water rose, which he plucked himself and moistened with salt tears—the rose of the sweet waters. And here is a Nettle, what tale may its leaves have to tell? What were his thoughts when he plucked it and kept it? Here is a Lily-of-the-Valley from the solitudes of the forest;—and here's a sharp naked blade of grass.

The blooming Elder waves its fresh fragrant blossoms over the dead man's head, and the Swallow flies past again."—

Pray excuse this long extract: I think I have known and proved something of what Andersen so feelingly describes; and my thoughts this morning on seeing the "*Tutsan*" shows it. With Wordsworth I not infrequently say,—

"To me the meanest flower that blows can give  
Thoughts that do often lie too deep for tears."

And this leads me to write a little more in the same strain and on kindred subjects.

When I first came to this (then little known) land, I saw but few plants growing wild that I recognized as being like myself natives of Britain and strangers here. It is true there were a few truly indigenous ones that were the same, both as to species as well as genera : e.g. The Sowthistle, (*Sonchus oleraceus*), the Sea-side Bindweed (*Convolvulus Soldanella*), the Garden Nightshade (*Solanum nigrum*), the Bulrush (*Typha latifolia*),—though more than twice the size of the English plant,—the Bur-reed (*Sparganium simplex*), and the Pondweed (*Potamogeton natans*); but these grew so largely and so commonly that they scarcely excited more than a passing thought; besides, the Sowthistle and the Nightshade, were often used boiled as greens. But afterwards, in the course of years, (omitting the early introduction of Clovers and of Grasses,) when I by chance fell in with a stray plant from Home growing wild,—it was just the story of the Tutsan over again. Well do I remember my first seeing the charming little Pimpernel (*Anagallis arvensis*), and also the common English Daisy (*Bellis perennis*), though that was 30 years ago! How I revisited and cherished them! Also, the dear little Groundsel (*Senecio vulgaris*), reminder of Goldfinches and Canaries! And the elegant plant Spurge (*Euphorbia helioscopia*), that well-remembered Alverton plant, so prized in childhood! And that well-known denizen of our British cornfields, the Cockle (*Agrostemma Githago*), the neat regularly formed Bedstraw (*Galium* spp.), and the variegated Catchfly (*Silene*

*quingue-vulnera*), still faithfully retaining its wondrous 5 red spots! These two, the Sun Spurge and the Catchfly have now become very common, but not so the Groundsel and the Cockle. The Dove's-foot Crane's-bill (*Geranium molle*), and its cousin the Hemlock Stork's-bill (*Erodium cicutarium*), I also welcomed; these have thriven exceedingly growing to a very large size; and so has that Newlyn plant, Sweet Alyssum (*Konigia maritima*), which I also brought here.

Indeed, owing to our temperate climate, not a few of our British Annuals and biennials have become perennials, and consequently flourish amazingly even to the swallowing up, or displacing, much of the truly indigenous vegetation; And not a few of our British perennials attain to a great size. I have seen the Foxglove (*Digitalis purpurea*), growing in its usual stately ranks more than 6 feet high and abounding in flowers! The Horehound (*Marrubium vulgare*) becomes a big flourishing bush, and so does the Red Valerian (*Valerian rubra*), both ornamenting dry stony places; while the handsome foliage Milk Thistle (*Carduus Marianus*) luxuriantly covers yards of land. On the other hand, a few that I have only once found I have never met with again,—as the misnamed "Gold-of-pleasure" (*Camelina sativa*); Field Lady's Mantle (*Alchemilla arvensis*); Common Thorn Apple (*Datura stramonium*); & a few others.

Here I may mention a few garden(?) plants that I had introduced, importing their seeds with many others specially from Home for my garden;—as the Evening Primrose (*Oenothera biennis*), the Mullein (*Verbascum Thapsus*), the purple Goats' beard, or Salsafy (*Tragopogon porrifolius*), a prized esculent of our ancestors though now disused, and an Asphodel (*Asphodelus fistulosus*),—all of which have escaped and spread rapidly covering much ground, and so doing mischief, especially this last; and so, also, have the elegant Fennel (*Foeniculum vulgare*), and the fragrant Sweet Briar, though these were not introduced by me. And it is a curious circumstance, that the Evening Primrose, in particular follows the course of the newly-made Railway; also the stony high banks in the rivers.—

Three years ago, while Botanizing in the sub-alpine forests, nearly 100 miles in the interior, and in a very secluded spot, (where I had often been before,) I suddenly came upon a young herbaceous plant (and only one) bearing a remarkably large leaf prostrate on the ground, somewhat in both habit and size resembling the leaf of the garden Rhubarb. It was certainly a striking object; and also new.

I visited that spot again that year, (having marked it and the plant,) but though the young plant had grown much larger, it showed no signs of soon flowering. In the following early season I again visited that wood, impatient to know something of my new discovery, but though it was now advancing towards flowering, I had yet to wait. Late in the autumn of that year I was again there; and judge my disappointment, when I found the plant to be only a big Burdock (*Arctium Lappa*)! Still, this was a novelty to me, who had never before seen it living and in flower; I question if it is found in West Cornwall. The worst, however, remains to be told: that one plant has flourished there, and its hooked seeds have been carried far and wide by cattle, and the plant is now far too common in all that neighbourhood, so that it has become a great nuisance; I ought to have destroyed it when I first knew it.

Again: two years back when Botanizing in that locality I fell in with another introduced herbaceous plant which, while I

knew it to be a foreigner, I could not quite identify in its leafing state; subsequently, however, I found it in flower; it is the Self-heal (*Prunella vulgaris*), and now this also is become far too common, overrunning and destroying all small and low herbage near it; as, also, does another most unwelcome stranger, though longer settled among us, the Cat's Ear (*Hypocheris radicata*). Curiously enough, when again in those parts last year, I met with a gentleman of this town who had been up in that neighbourhood collecting ferns for his garden and he being attracted by the fine size and novel appearance of this plant (*Prunella vulgaris*), in its leafing state, had dug up several of them, and was bringing them carefully away with his ferns,—until I told him what they were.

Among our own botanical New Zealand gems, (found extensively growing in those parts,) are one or two species (or varieties) of *Pratia*, a lovely little lowly creeping and perennial plant, with small cut and glabrous leaves that completely mat the ground, studded, also, with a profusion of white Lobelia-like flowers on short peduncles; in sheltered and damp spots this plant is often a beautiful object, both in flower and in fruit, its large and succulent berries being of a scarlet colour; it also remains in flower during the whole of our long summer. I have often thought,—what a lovely bedding-plant it would make at Home! Particularly in our damp and mild Cornish climate. So beautiful does it appear to me in some open yet sequestered spots that I know, and so imploring! that I have hesitated to walk or step on it, although the tangled and prickly bushes alongside were very difficult to get through. Of late, however, I have had the unhappiness of seeing it increasingly invaded by both the Self-heal and the Cats ear! which show it no mercy. I have already and several times, sent to England the seeds of this plant (*Pratia*), and I propose sending some to Penzance very shortly for distribution.

*Note:* a detailed account of this pretty little plant will be found in a Paper of mine, "Transactions N.Z. Institute", vol. xv. pp. 316, 318.

Among the numerous British and Foreign plants that I have introduced here in years long past, I think, in writing to Penzance on this subject, I should mention two,—the Primrose and the Blackberry,—as the seeds of both of them came from Penzance in a letter, from my brother, to whom I had written for them. Those of the Blackberry in particular having been collected for me, at my request, from those very prized bushes on the steep hills on the S. side of the Newlyn river, above the high road and nearly opposite to "Zimmerman's Cot,"—which spot I had so often visited when a boy! The Blackberry is now acclimatized, and spreads largely and is much prized; the plant here grows to an enormous size, certainly, in some spots, as big as a Cornish Cow-house! and bears plenty of fruit. The little pale-eyed and lovely Primrose is much respected in several of our shady gardens, and has often called forth the involuntary sigh! Although, no doubt, to some one of the "Peter Bell" stamps, (to be found here at the Antipodes as well as at home,)—

"A primrose by a river's brim,"  
(or in a garden's shade,  
"A yellow primrose was to him,  
And it was nothing more." (Wordsworth.)

I remember well, that several years ago, the first English Primrose plant that flowers at Melbourne (in the neighbouring Colony of Victoria), was the cause of

hundreds flocking to see it; and of many tears of affection! and it was sold for more than its weight in gold!—

One other little circumstance I think I may also mention, especially in writing for a Penzance Antiquarian Society,—and partly as a reminiscence of old Cornish times. During my youth I not infrequently visited Kenegie, (then the property and country-seat of Mr Arundel Harris-Arundel, ("Squire Harris," in *vulgo dicto*.) though he had ceased residing there;) several things tempted me into that neighbourhood: (1) love of rambling alone in strange out-of-the-way places: (2) the enchanting view of Mount's Bay from Gulval Carn, (put into verse by the Rev. C.V. Le Grice, whom, with Mrs. Le Grice, I knew so well!) and also from Castle-an-Dinas: (3) to mount up and sit astride on the two stone lions at the Entrance gate, &c., &c. In the parterre at Kenegie, just outside the green-house, and in front of a trellis on which was trained a fine *Pyrus Japonica*, was a circular bed, a half-mound, and in the centre of it a very strange-looking foreign tree, or stout gnarled shrub, bearing curious-looking and aromatic berries, or capsules, by some called, "the spice tree"; this shrub (so the story ran) was brought (in its seed) from the S. Seas by Capt. Cook, or by Sir Joseph Banks. That shrub was my youthful wonder, and I wished much to see its flowers, which I never did. Guess then my delight, when, soon after my landing here in New Zealand, I found it commonly growing about me, bearing both fruits and flowers in profusion. It is the *Leptospermum scoparium*, of Forster, and was used by Capt. Cook when here as a beverage instead of tea, and also in his manufacture of Spruce Beer for his ship's company. (See, *Cook's Voyages*, 4<sup>th</sup> ed., 2<sup>nd</sup> Voy., vol. I., pp. 99-101; plate, No. XXII).

And as I commenced with the *Tutsan* and its one habitat formerly known to me at Tolcarne, I think, in conclusion, I may just jot down a few more old local Mount's Bay plants with their habitats, though, I suppose, no longer to be found there! after the lapse of half a century, and its increasing "civilization" caused by the advent of the Iron Horse!—

*E.g.* On the Eastern Green, between Penzance and Marazion, I have found the Henbane (*Hyoscyamus niger*), the wild thyme (*Thymus serpyllum*), the Bird's-foot Trefoil (*Trifolium ornithopoides*), the Enygo (*Erygium maritimum*), the Borage (*Borago officinalis*), and the rare sea spurge (*Euphorbia paralias*),—long a puzzle to me, and over at St. Michael's Mount the elegant drooping feathery Tamarisk shrub (*Tamarix anglica*), which, of late years, I have repeatedly rejoiced to see here in a neighbour's garden. But far above them all (in my young estimation), was the fine floating white water lily (*Nymphaea alba*), which I not unfrequently admired (but never sacrilegiously gathered) in the still waters of the big reedy lagoon between Long Bridge and Marazion Bridge; going out of my direct way in my frequent visits to Marazion to see it in its solitude and grandeur; taking a course, now perhaps obsolete and scarcely even remembered,—and which, therefore, I may be permitted to mention;—leaving the main road and going down to Long Bridge, and there climbing and dropping over it on to a long narrow dyke which ran the whole length of that lagoon (though sometimes it was under water in several places,) often did I contemplate that fine and beautiful water-plant; occasionally thinking on the poet Cowper's adventure about one on the banks of the river Ouse, as recorded by him in his short poem on "The Dog and the Water Lily"; Cowper being, even in my boyish days (as he is still) a favourite poet of mine,—having also had

while very young at School to learn by heart some of his poems, which I still remember.—

But my choice floral prizes were not by any means confined to the Eastern Green; there were others also to the West of Penzance and much nearer to it,—as the Barberry (*Berberis vulgaris*), and the handsome and pleasing Traveller's Joy (*Clematis vitalba*), both near to Alverton Bridge, or rather to the entrance into Love-lane; and down in that Lane the Periwinkle (*Vinca minor*), the Daffodil (*Narcissus pseudo-narcissus*),—found, also in the steps above the Paper mills at Castle-Horneck,—and, again, the Barberry; while at the Minney the quaint-looking Water Betony (*Scrophularia aquatica*) had its home; and in the old hedge of the hilly roadway field leading from the South Parade to the Minney the Yellow star-flowered Stone-crop (*Sedum acre*), the child's wonder! was plentiful, and with it a small (and scarce) Blue-bottle (? *Centaurea* sp.), that I never found anywhere else. And close by, in a narrow muddy and all but impassable lane, leading from that pathway towards the Western Green, grew the Columbine (*Aquilegia vulgaris*), the wild Hyacinth, Bluebell, or Cuckoo flower (*Hyacinthus non-scriptus*); and in the marshy land adjoining, the yellow water-iris (*Iris pseudo-acorus*), and the common Reed (*Arundo phragmites*) were found. This last very valuable to me, (*i.e.* to us, boys,) as, cut up into lengths, it formed the cases of *small* squibs in preparing our boyish fireworks for St. John's Eve! And of it I have also made useful pens for writing when hard pushed,—good quills being scarce and dear, and steel pens unknown! And still further West, up on the heights of Tolcarne, in a very secluded spot not far from the *Tutsan*'s home, grew the Snowdrop (*Galanthium*

*nivalis*), Spring's harbinger; and at the bases of the cliffs between Newlyn and Mousehole, the little lowly cushioned Sea-gilliflower (*Armeria maritima*), flourished in safety, unvisited unnoticed! And I suppose this, at least, still abides at home!—

But I must close my long recital with two of my favourite and most valued wild Western flowers:—one, a very graceful and delicate Geranium (possibly *G. striatum*), from the shady grove at Castle-horneck; and one, the sweet little climbing and trailing Ivy-leaved Toad-flax (*Linaria cymbalaria*), from the hedge outside "the Lodge,"—Near Castle-Horneck entrance gate, formerly, in my Penzance days, occupied by Miss Tremenheere. And I may also mention, that some 25 years ago, in writing to Penzance, I requested specimens of this last little gem from that same locality, and they were sought, gathered, and sent out! And I have them here, with a few other prized dried specimens of wild flowers from Home),—to look at, occasionally, after the fashion of Hans Andersen's "Old Student" (*supra*).

"*Exeunt omnes!*"—as the old printed plays had it at the close: it is now Xmas. Day in the morning,—and I am physically tired.

Wm Colenso.

Napier, Hawke's Bay, N.Zealand.

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